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NATIONAL DEVELOPMENT PLAN

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Contents

FOREWORD

INTRODUCTION

PART I: POLICIES AND OBJECTIVES

PART II: DESCRIPTION OF NATIONAL DEVELOPMENT PROJECTS



HIS EXCELLENCY SIR SERETSE KHAMA K.B.E., B.A., LL.D.
PRESIDENT OF THE REPUBLIC OF BOTSWANA

Foreword

Eighteen months have passed since attaining independence and our first Plan – the Transitional Plan for Social and Economic Development published in 1966 – has become outdated. Significant progress has been achieved in this short period. But we have still only just started the long climb towards a dynamic and self-sufficient economy. The new National Development Plan, which I now commend to the Nation, takes us forward to 1970. At the same time the Plan describes succinctly the direction in which we are going and explains the policies and objectives which will guide us.

The population of Botswana is small and poor. We are faced with unique problems: lack of independent access to the sea; overshadowed by powerful neighbours whose domestic policies differ radically from ours; the lack of a national currency; the inability to impose our own customs tariffs; and so on. In these circumstances, direction and impetus must be given to the economy. Domestic resources must be husbanded and used to the greatest advantage in promoting growth. At the same time we cannot justifiably seek assistance from abroad unless it is used to the maximum effectiveness.

I have proclaimed before my belief in the need for sound planning. To strengthen the machinery of planning I have established a special Ministry, under the Vice-President, responsible for the implementation, as well as the formulation of development plans.

The primary aim of my Government, as I stated in the Transitional Plan, is to create a strongly united nation, to overcome all parochial, tribal and racial rivalries and to safeguard the territorial integrity and sovereign independence of our country. We will continue to be alert against all forms of racial discrimination and will work to preserve the stable and democratic environment essential for economic progress. We shall take steps to strengthen the institutional structure of our new country. In particular, new means will be sought to mobilise local savings for investment within the country and increased efforts will be made to establish an industrial sector.

At the village level the spirit of self-help will be fostered by the creation of Village Development Committees working closely with both District Councils and Central Government. The time has come for everyone to realise that immediate improvements in living standards can be achieved through individual effort and initiative, rather than through the charity of others.

The excellent prospects for the development of large-scale mining offers hope for the future. But we must not sit idle and waiting for the royalties to accrue. There is much that can be done now. The National Development Plan sets out in detail the tasks to be tackled. Every Motswana must play his part.



Sir Seretse Khama.
PRESIDENT.



Introduction

In 1963, the Bechuanaland Protectorate Government published a five-year public expenditure programme based on the limited development finance thought likely to be available from the colonial power. Since then, the rapid constitutional advance culminating in the attainment of Independence on 30th September, 1966, has created an entirely new situation. At Independence the Botswana Government published a *Transitional Plan for Economic and Social Development*, outlining national policies and development objectives to be adopted in the initial period of independence and listing the projects to be undertaken by Government in the first three years.

Our first Plan was transitional in two senses; firstly, it bridged the period of constitutional transition from internal self-rule to full independence. Secondly, it was intended to cover the period of change from rudimentary public expenditure programmes to full resource planning. We had hoped to produce a comprehensive Five-Year Plan by the end of 1967. It has not proved possible to adhere to this time schedule for two reasons: firstly, we were unable to recruit the staff we needed for the work, and secondly, rapid developments in the mining sector have created a very fluid situation, making reliable long term projections at this juncture virtually impossible. It is anticipated that a much clearer picture of the potential for mineral production will emerge during the current year.

When we, the Democratic Party Government came to power in early 1965, an Economic Planning Unit was established within the Ministry of Finance. This arrangement proved inadequate to meet the challenge of independence. Government's role as an agent for development was being rapidly enhanced, and it soon became obvious that a new department of Government was required to guide and co-ordinate these activities and to provide economic advice generally to Ministries. To meet this need a Ministry of Development Planning was created exactly one year after independence. The first task of the new Ministry was to review the immediate

policies and objectives of Government, and hence to revise the Transitional Plan and bring it up to date. The present National Development Plan 1968/72 is the outcome of this work.

This Plan establishes national guide lines for the next few years (Part I), and specifies the details of those projects to be started in the next two years (Part II). Five year revenue and expenditure projections are given (1968/73) and these define the Plan period. It is envisaged that a far more comprehensive plan will be published at the end of 1969, covering the period 1970 to 1975. It will take into account the results of the research in depth now being carried out on various key aspects of the economy. It will be possible in eighteen months' time to make much more reliable projections; the likely development of the mining economy will have become much clearer; a new Customs Agreement will have been negotiated and, generally, far better statistics will be available.

We consider it essential that national planning should be undertaken in close consultation with all non-Governmental institutions and associations of importance. To assist in the achievement of this objective, we have established a National Economic Advisory Council, consisting of representatives of the private sector, under my chairmanship. The first meeting was held early in January, 1968, and it is intended that subsequent meetings will be held about once every six months. In this way Government will be able to draw on expertise and experience which would not otherwise be available to it. The existence of the Council should ensure that Botswana's development plans are truly national plans and not simply programmes of Government expenditure.

Almost all the expenditure proposed in this Plan is dependent on finance being raised from friendly Governments and agencies abroad. For the first time in the history of Botswana, it is now possible to state confidently that our country has the potential to achieve financial self-sufficiency in the near future, accompanied by

rapid and sustained economic growth. But this requires initially, over the next five to ten years, an injection of large amounts of capital to develop the mining sector. Unless we are successful in securing the assistance required, there is a real danger that Botswana will continue to remain a burden on international charity and without the benefits of real independence which derive from self-sufficiency. We sincerely hope

that the aid we are requesting will be forthcoming. This Plan has been drafted in the confident expectation that Botswana will not be disappointed.



Dr. Q.K.J. MASIRE,
Vice-President and Minister of
Development Planning.

PART I

Policies and Objectives

CONTENTS

	Page
Chapter I – The Economy.....	1
Chapter II – Strategy for Development.....	7
Chapter VIII – Water Resources	14
Chapter IV – Agriculture.....	18
Chapter V – Game, Fisheries and Forestry	28
Chapter VI – Industry and Commerce.....	32
Chapter VII – Shashi Complex.....	40
Chapter VIII – Physical Infrastructure:	43
(a) Roads	43
(b) Air Services.....	45
(c) Meteorological Services.....	45
(d) Power Supplies	46
(e) Surveys and Lands	46
(f) Posts and Telegraphs	48
(h) Housing.....	49
(i) Geological Survey.....	50
Chapter IX – Social Infrastructure:	52
(a) Education	52
(b) Medical Services.....	60
(c) Community Development.....	61
(d) Youth.....	64
(e) Sports	65
(f) National Museum.....	66
(g) National Library	66
Chapter X – Central Government Services:	67
(a) Central Government Administration	67
(b) Localisation and Training.....	67
(c) External Affairs.....	69
(d) Information and Broadcasting	69
(e) Police.....	70
(f) Prisons.....	71
(g) Statistics	71
(h) Labour Branch.....	71
(i) Printing.....	72
(j) Local Government Administration.....	72
(k) Law Reform	73
Chapter XI – Regional Development	74
Chapter XII – Finance for Development.....	80

Tables

TABLE		Page
I	Gross Domestic Product by Factor of Production	4
II	Gross Domestic Product by Industry	4
III	Estimated Exports of Botswana	6
IV	Estimated Imports of Botswana	6
V	Estimated Revenue from Internal Sources	85
VI	Estimated Revenue from External Sources in Sight	85
VII	Recurrent Expenditure to Maintain Existing Services	86
VIII	Summary of Recurrent Expenditure Resulting from Development Projects by Departments	87
IX	Summary of Capital Expenditure by Departments	87
X	Summary of Capital Expenditure by Sector	88
XI	Summary of Recurrent Expenditure by Sector	88
XII	Summary of Financial Projections	88

Chapter I—The Economy

Physical Features:

1.1. The principal features of Botswana are its physical size, aridity and low density of population. With almost the same area as Kenya, it comprises a vast dry tableland with an annual rainfall varying from 12 to 19 inches. The country is entirely landlocked, bounded by Rhodesia, South Africa, South West Africa, the Caprivi Strip and Zambia. The main supply route is the railway line joining Bulawayo in Rhodesia to Mafeking in South Africa. The line of rail runs north-south through eastern Botswana where over 80 per cent of the population lives.

1.2. The east of the country is broken by a series of rocky hills and in the north is widely covered by mopane bush. The rainfall is sufficient to produce good pasturage and this fact, combined with the presence of underground water, makes eastern Botswana an excellent cattle rearing region. In addition the rainfall is normally sufficient to permit arable farming; the main crop is grain sorghum but rainfed maize, beans and other crops are also grown successfully, especially in the south.

1.3. The Kalahari Desert occupies a great expanse in the centre and the south of the country. The sand veld is closely covered with thorn bush and grass; surface water is absent except in occasional clay floored depressions known as pans. Where permanent supplies of water can be obtained from boreholes cattle ranching is possible. This is particularly true on the Ghanzi plateau in the west where a number of freehold farms have been established. For the most part the Central Kalahari is inhabited only by small bands of shy Bushmen.

1.4. In the north-western corner of Botswana, called Ngamiland, the Okavango River forms a swampy delta covering 6,500 square miles. It is estimated that the average inflow of water from Angola is 9,000 cusecs, representing a vast untapped water resource. Although part of the Okavango Delta is tsetse infested, it is estimated that some 50,000 acres would be suitable

for irrigation farming if the water flow could be controlled. The swamps support great herds of buffalo, hippopotami and other wild animals which together with the game in the Kalahari and Northern Botswana represent one of Africa's largest reservoirs of wild animals and constitute an important tourist attraction.

1.5. In Northern Botswana the Kalahari gives way to belts of indigenous forest and dense bush sustained by the higher rainfall of the region. Valuable stands of hard wood cover extensive areas. The availability of ground water resources, and the existence of suitable soil and reliable rainfall in the north-eastern corner of the region indicate favourable development potential. To the south of this area lies the Makarikari depression, a vast salt pan containing valuable brine deposits.

1.6. The climate of Botswana is tropical, subtropical and temperate depending on the region. Summers, the rainy season, are hot although tempered at times by north-eastern breezes; winters are dry with wide diurnal temperature variations, occasionally giving rise to frosts.

1.7. Botswana has recently experienced the most calamitous drought in living memory. It lasted from 1961 to 1966. Famine was widespread and about one third of the national herd was lost. In many areas the vegetation was entirely grazed away, and permanent damage done to the veld. The heavy rains which fell during 1966/67 brought temporary relief, but the rains failed again in 1967/68. Records show that good rains resulting in excellent harvests only occur two or three years each decade. It is to be expected that with current agricultural practices famine will occur frequently.

Population and Employment:

1.8. A census of population held in 1964 showed that the country's total inhabitants numbered 543,105, comprising 535,275 Africans, 3,921 Europeans, 3,489 persons of mixed race,

382 Asians and 38 others. Overall population density is 2.5 persons per square mile, and it is estimated that the growth in population is between 3 and 3½% p.a.

1.9. The majority of the population has a pastoral and agricultural existence, living in central villages, the largest being Serowe (35,000), Kanye (35,000) and Molepolole (31,000). The main business centres are the capital Gaborone (estimated population 18,000), Lobatsi (8,000) and Francistown (13,800) all situated along the line of rail.

1.10. The 1964 population census shows that the following numbers of workers were employed in the following occupations:

Activity	Number of Workers
Agriculture, Forestry, Hunting and Fishing	227,649
Mining and Quarrying	1,940
Manufacturing	2,420
Construction	2,704
Electricity, Water Services	120
Commerce	2,468
Transport & Communications	2,315
Services	9,798
Ill-defined activities	1,264
Total	250,678

1.11. A labour force survey conducted in 1966 showed that there were some 29,000 persons in salaried employment. The wage bill for 1967 is estimated to be approximately R11 million. In addition, during 1967, 22,735 left the country to work on the South African mines, and a similar number of Batswana have found employment in other sectors. There are no precise figures of the remittances of migrant labour, but estimates suggest that the sum exceeds R2 million annually.

Land Utilisation:

1.12. Botswana is divided into eight tribal territories (107,497 square miles), six freehold farming blocks mainly occupied by Europeans (8,242 square miles) and State Lands (104,497 square miles) which are largely uninhabited sand

veld but include the Central Kalahari Bushman Reserve.

1.13. Land in each Tribal Territory is vested in the Chief and the Tribe and is allocated to individuals by the Chief. Every member of a tribe has the right to the use of land, which may not be alienated by the Chief or Tribe without Government approval. There is no written title to land which could be used as security for loans.

1.14. The cultivated tribal lands usually start a few miles from the villages and in the case of larger villages may stretch in any direction up to thirty miles. These "lands" are normally concentrated in one or more places, but often in arid areas are widely scattered. Around and beyond the "lands" lie the cattle posts; these are either at boreholes or at wells dug in the sands of ephemeral rivers. Each cattle owning family maintains a post which may be shared with other members of the extended family. Small cattle owners are encouraged to form syndicates to raise sufficient funds to pay for boreholes. Traditionally grazing areas are unfenced and may be used by any member of the tribe passing through the area.

1.15. It is estimated that there are 11 million acres of land suitable for cultivation in eastern Botswana; of these only one million acres are under cultivation or recent fallow; some 600,000 acres are considered to be potentially irrigable. Most of the remainder of the country offers good grazing. The national herd, although reduced by one-third as a result of the recent drought, is estimated to number just over one million head. The carrying capacity of the country is believed to be over 2½ million head provided sufficient watering points can be created.

Mineral Resources:

1.16. Since 1961 there has been a gradual decline in the value of mineral exports from Botswana. These depended largely on the small scale mining of chrysotile asbestos and manganese-ore, but all mining activity ceased in 1965. A limited mineral export of asbestos fibre and of manganese from reserves of stockpiled ore,

valued at R79,794 took place during 1966 (compared with peak mineral production value at R616,129 in 1961). During 1967, small scale manganese-ore mining was revived in south-eastern Botswana, but early work was largely restricted to development with only limited production of ore. However, as a result of increasing mineral prospecting activity important mineral discoveries have been announced which, it is anticipated, will lead to the establishment of a mining economy in Botswana during the Plan period.

1.17. Kimberlitic Searches Limited, a subsidiary of De Beers Consolidated Mines Limited, has discovered a number of kimberlite pipes in the Letlhakane area, south of the Makarikari and about 110 miles west of Francistown. One of the pipes is stated to carry diamonds, but it will take approximately a year to assess the full economic potential of this discovery. Work on the evaluation of this pipe has recently been intensified. The company has continued regional prospecting operations in the surrounding area as well as in other areas of Botswana.

1.18. Bamangwato Concessions Limited, a subsidiary of Botswana RST Limited, announced in February, 1967 that their prospecting operations in Botswana had, at that date, outlined a total of some 33 million tons of potential copper and nickel ores in two areas in the north. Exploration has continued in both areas by diamond drilling, geochemical surveys and bulk sampling of potential ore obtained from underground exploration at each of the deposits. In addition to the copper/nickel deposits, Botswana RST Limited has shown interest in the production of salt, soda ash and sodium sulphate from the extensive brines present in the Makarikari region, west of Francistown. No insuperable physical or chemical problems have been found in any of the technical aspects of extraction or treatment of the brines which have been investigated to date. The proposed development of all these deposits is dealt with in Chapter VII.

1.19. Geological investigations of coalfield areas adjacent to the railway line at Morapule, 6 miles west of Palapye, and at Mamabule some 80 miles south of Palapye, were carried out by

the official Government Geological Survey in 1957-58 and 1958-59 respectively. These studies proved total coal reserves of the order of 150.5 million tons in an area of 9.38 square miles investigated at Morapule and of 408 million tons within a defined area of 17 square miles investigated at Mamabule. The African and European Investment Company Limited is investigating the feasibility of establishing a colliery on the Morapule coalfield with the object of the production of power to cater for the needs of possible mining developments in northern Botswana.

1.20. Other prospecting activity has included investigation by the Tati Territory Exploration Company (Pty) Limited, of copper, copper/nickel, copper/lead, antimony and kyanite occurrences present in the area southeast of Francistown. Two subsidiary companies of the Anglo Transvaal Consolidated Investment Company Limited, Theta Mining and Prospecting Company (Pty) Ltd. and Zeta Mining and Prospecting Company (Pty) Limited, are carrying out regional prospecting operations, primarily for possible copper deposits, over a large area of the north-western (Ghanzi) State Lands and part of the southern Batawana Tribal Territory, respectively. Marble Lime and Associated Industries Limited commenced limited manganese-ore mining operations in the Lobatsi Block, east of Lobatsi in south-eastern Botswana, in August, 1967. The Botswana Mining and Exploration Company (Pty) Limited commenced mining operations at the old Kgwa-kwe manganese mine, south of Kanye and about 35 miles southwest of Lobatsi, at the end of 1967. The Anglo American Corporation of South Africa Limited is engaged on regional geochemical surveys, mainly directed towards the discovery of possible copper and nickel occurrences in their privately owned mineral right area of the Tuli Block in eastern Botswana.

1.21. Early in 1968 eleven special prospecting licences were issued to a number of different mining companies for prospecting rights over various areas in Botswana for precious stones, semi-precious stones, brine, manganese and iron-ore, talc, gypsum, limestone and other base minerals. Interest has also been expressed

in certain rock types which may have potential as ornamental building stone.

1.22. Other known minerals include potential fireclays and industrial ceramic materials. High grade limestones are present in certain areas and it is possible that certain deposits may be developed for agricultural purposes.

National Income

1.23. The systematic collection of economic statistics has only recently been started. A complete set of reliable national income accounts is therefore not available. Preliminary estimates have been made for the year 1965, but they can be assumed to contain a wide margin of error. The results of this work are given, nevertheless, in Tables I and II, since they provide a useful guide to the structure of the economy. The figures must be treated with extreme caution.

1.24. The gross domestic product (at factor cost) per head for 1965 is tentatively estimated to have been R50. This was a year of acute drought and towards the end of the year about one fifth of the population was receiving famine relief. The crops failed almost entirely and cash incomes, mainly from the sale of cattle and the remittances of migrant labour, were diverted to the purchase of food supplies and away from less essential consumer goods. The drought caused a record offtake from the national herd and the highest ever number of labourers offered themselves for work on the South African mines.

1.25. A crude estimate of the growth rate can be obtained by comparing the 1965 national income estimate with a similar estimate made by Erasmus for 1955. The approximate overall growth rate would appear to be 5% p.a. for this period which, assuming a population growth rate of 3% p.a. indicates that the growth in per capita income has been roughly 2% p.a. Although this may be thought by some from general observation to be an over-estimate, there is no doubt that there has been a marked increase in economic activity in recent years – mainly due to a rapid expansion of the Government sector – which suggests a current growth rate of national income in the region of 6% p.a. If this is true the G.D.P.

for 1968, the first year of the Plan, is about R33 million and will rise to over R40 million by the end of the Plan period (i.e. 1972) with an average per capita income reaching R60 p.a. This assumes that an average annual growth rate of 6% will be maintained, an assumption justified by the anticipated rapid development of mining. This projected rate of growth could well be exceeded, if the present forecasts given by the mining companies prove to be over cautious.

1.26. Inspection of Table I reveals that the contribution of the subsistence sector is unusually small for a country as under-developed as Botswana. This is explained by the low output of arable crops due to poor rainfall and to a high degree of monetisation in the production of cattle. Table II underlines the importance of cattle ranching (viz: agriculture) in the economy.

TABLE I

GROSS DOMESTIC PRODUCT BY FACTOR OF PRODUCTION (1965)

	(R'000)	%
1. Subsistence Production	3,825	13.7
2. Wages and Salaries	10,075	36.2
3. Gross Operating Profits	11,301	40.5
4. Government Income from Property	754	2.7
5. Private Income from Property	1,935	6.9
6. Gross Domestic Product (factor cost)	27,890	100

TABLE II

GROSS DOMESTIC PRODUCT BY INDUSTRY (1965)

	(R'000)	%
1. Agriculture, Forestry and Fishing	10,315	37.0
2. Mining, Manufacturing and Processing	3,804	13.6
3. Construction	2,087	7.5
4. Transport	2,114	7.6
5. Commerce	2,394	8.6
6. Private Services	1,013	3.6
7. Government Services	3,189	11.5
8. Government Enterprises	285	1.0
9. Property Income	2,889	9.6
	27,890	100

Note: Readers are cautioned that these estimates may contain a large margin of error.

Trade:

1.27. Botswana is joined to the Republic of South Africa in a Customs Union Agreement under which Botswana receives about 0.3% of customs and excise revenue (excluding that derived from South African manufactured beer, wines and spirits) collected by the South African authorities. As a result of the existence of the customs agreement with the Republic of South Africa, goods move freely between the two countries and no records of imports and exports have been kept. Estimates of external trade flows have been made, partly by means of questionnaires.

1.28. Tables III and IV give details of Botswana's principal imports and exports. The export figures omit an item for invisible earnings represented by the grants and loans received by the Government from external sources; in 1965/66 for example, these invisible earnings totalled R9.8 million. The dependence of the country on the earnings of the livestock industry is clearly evident from the export figures. This was particularly true in 1966 and 1967 since almost all mining had ceased.

1.29. The statistics for imports show the value of goods imported from Rhodesia and South Africa. However, the figures do not indicate the primary source of origin. It is estimated that a high percentage of imports are South African manufactures which are able to compete successfully with overseas manufactures, in some cases as a result of protective tariffs. The successive years of drought have necessitated large imports of basic foodstuffs such as maize and sorghum. In years of good rainfall Botswana becomes a net exporter of sorghum, no less than 176,000 bags having been exported in 1961.

1.30. In the marketing of agricultural crops Botswana is in close liason with the South African Dairy Industry Control Board, and the Oil Seeds Board, which guarantee markets for these commodities at favourable prices.

Financial Institutions

1.31. Botswana participates in a joint monetary system with South Africa, the Rand being legal tender in the country. This arrangement eliminates any international payments disequilibria, these being absorbed by the Southern African banking system, and assures the country of a stable and internationally recognised currency. However it has the disadvantage of making Botswana subject to monetary and credit policies over which it has no control. This difficulty has been circumvented to a limited extent by establishing a Botswana National Development Bank capable of supplementing the credit facilities provided by the two commercial banks operating within the country.

1.32. The National Development Bank was established in 1965 for the purpose of promoting the economic development of the country with priority being given to agricultural credit for African farmers, cooperative credit and loans for local business ventures. Its impact has been limited so far due to a shortage of capital.

1.33. So far there are few channels for the investment of local savings in Botswana. The Post Office runs a successful savings scheme and it is intended that part of the funds raised in this way should be invested in the National Development Bank. A number of Thrift and Loan Societies have been started under the aegis of the Department of Co-operative Development. The Government has raised no public loans, nor is there an official Treasury Bill issue.

1.34. Standard Bank and Barclays Bank D.C.O. operate in Botswana maintaining eight branches and twenty-six weekly agencies. Their credit policy is subject to overall control by the South African Reserve Bank.

TABLE III: ESTIMATED EXPORTS OF BOTSWANA 1964 - 1966. R'000

	1964	1965	1966
Cattle (live)	640	838	793
Cattle (carcases)	4,772	5,802	6,911
Other animals (sheep, goats, etc.)	45	54	68
Hides and skins (domestic animals)	488	658	893
Skins, trophies, dried meat, ivory, karosses (wild animals)	95	139	38
Canned Meat	810	753	670
Meat extract	182	432	125
Abattoir by-products	261	369	362
Bonemeal	113	184	173
Butter and butterfat	57	39	54
Other animal products	351	411	368
Asbestos	258	185	15
Manganese	89	32	10
Groundnuts	185	2	23
Cotton	44	221	71
Other agricultural produce	54	54	199
Labour (Deferred Pay and remittances)	871	1,087	1,250
Total	9,315	11,260	12,023

TABLE IV: ESTIMATED IMPORTS OF BOTSWANA 1966. R'000

	South Africa	Rhodesia	Other	Total
Food and Non-alcoholic Beverages	3,587	1,406	1,122	6,117
Alcoholic Beverages and Tobacco	511	612	114	1,237
Livestock and Livestock Feed	204	553	—	757
Clothing and Textiles	570	677	5	1,252
Building Materials	1,551	441	5	1,997
Machinery and Equipment	1,994	404	199	2,597
Fuels, Chemicals and Drugs	2,214	191	1	2,406
Miscellaneous	2,030	400	31	2,461
Total	12,861	4,686	1,477	18,824

Chapter II—Strategy for Development

The Need to Plan :

2.1. The Government wishes to stress its belief in the necessity of planning the social and economic development of the nation. The available resources are so few and the problems so great that only by careful planning can these resources be put to their most effective use. A rationally planned and guided economy is the objective of Government policy. However, a balance must be struck where private initiative has ample scope within the general confines laid down by Government. It is Government's duty to set forth clearly its objectives and priorities, to frame its policies accordingly, and to assist the private sector in every way consistent with the attainment of these goals.

2.2. Any national plan, if it is to secure the support of the people, and the sympathy and assistance of other nations, should state clearly the priorities which will guide both the recurrent and capital expenditure of the Government. These rational objectives and priorities are set forth below and are the result of the most careful consideration.

2.3. The present Plan is designed to guide the economic and social development of Botswana during the next two years. In this interim period a comprehensive Five Year Plan will be prepared. But this Plan has a further basic objective; to describe briefly the development projects which will be financed, it is hoped, by nations economically more fortunate than Botswana.

Planning Machinery :

2.4. The responsibility for the preparation of national plans rests with the Ministry of Development Planning, which is headed by the Vice-President. This Ministry is also responsible for general oversight of the implementation of agreed plans and, specifically, it administers, in close consultation with the Ministry of Finance, the annual Development Budget. The Ministry of Finance administers the recurrent

Ordinary Budget, likewise in close consultation with the Ministry of Development Planning. The portfolio of the Ministry of Development Planning also covers the negotiation of external aid and the National Development Bank. The Central Statistics Office is located within the Ministry. The Ministry is the co-ordinating authority for the two major inter-departmental development projects financed by the U.N. Special Fund, the Shashi Complex Pre-investment Surveys and the Surveys and Training for the Development of Water Resources and Agricultural Production.

2.5. To assist in planning the use of water resources, there is an interministerial Water Development Committee, under the Chairmanship of the Minister of Commerce, Industry and Water Affairs, on which representatives of the Water Branch, Geological Survey, Agricultural Department and the Ministries of Local Government, Works and Communications and Development Planning sit. Consideration is now being given to replacing this body with a Natural Resources Development Committee, which would have a slightly wider membership and would consider the optimum use of all natural resources in an integrated and co-ordinated manner.

2.6. Consultation with the private sector on economic matters is to be maintained through bi-annual meetings of the National Economic Advisory Council. In addition, there are several specialised bodies through which Government is able to draw on the knowledge and experience of the private sector, the most important being the Livestock Industry Advisory Board, the Education Advisory Committee, the National Technical Training Advisory Committee, the Medical Advisory Board and the Youth Council. To ensure orderly physical development, there is a Town and Country Planning Board.

General Economic and Social Objectives

2.7. In the absence of reliable national income statistics, it is not very meaningful to talk of raising per capita income by a precise percentage figure. It was explained, however,

in Chapter I, that a growth rate of about 6% p.a. seemed a justifiable expectation and this is the figure that has been assumed in this plan. If mining development occurs more rapidly than the present cautious estimates of the mining companies, the rate of growth may easily reach 10% per annum by the end of the Plan period (i.e. by 1972). If this happens, the projections contained in this Plan, for example, for trained manpower, will require upward revision.

2.8. Botswana is a poor country but it possesses sufficient natural resources to permit, with outside assistance, rapid development. As yet, the resources available are largely unexploited. Wide areas of fine grazing have yet to be opened up. The crop and animal husbandry techniques practised by the majority remain rudimentary. Serious mineral and oil exploration has only recently begun and already discoveries have been made, indicating that there are ore bodies of great economic importance waiting to be exploited. Although most parts of the country are arid, millions of gallons of water are permitted to flow out of the country each year and the vast water resources of the Okavango remain completely unused. To date, little industrial development has occurred, but if adequate supplies of water and power can be made available near the line of rail, there is little reason why Botswana manufacturers should not compete in the rich southern and central African markets, to which they have uniquely privileged access.

2.9. Botswana is an enormous country, sparsely inhabited. For the purpose of good government and security, it is necessary to maintain an administrative super-structure costing, in per capita terms, more than in most other countries. There is an extensive network of roads to be maintained linking the capital to the remotest villages. The cost per head of water supplies and other basic services are high compared to more favoured countries. In addition, the quality of these essential services is inevitably lower than in more densely populated territories.

2.10. Fundamental to the plans and policies of the Government is a determination to make the country a financially viable entity in the shortest

possible time. No politically independent nation can or should expect to survive indefinitely on grants to meet the ordinary recurrent expenditure of Government. Development of the resources outlined above, in the ways explained in detail in the chapters which follow, should enable Botswana to free itself entirely of grants-in-aid within the next fifteen years and permit, at the same time, standards of living to be progressively improved. But these two objectives can only be achieved if a flow of capital assistance is received from external sources in the amounts projected in this Plan.

2.11. The revenue raised internally at present by Government cannot cover even half the cost of existing services. There are therefore very few local funds to be spent on development, even though it is intended that all inessential public expenditure will be vigorously restrained and all waste avoided. There is scope for mobilising local savings for investment locally, and proposals in this regard are set out in Chapter XII.

2.12. Development which can take place with little outside aid is that based on self-help – the construction of rural roads, small dams and buildings using local materials – and these activities are already and will continue to be encouraged energetically by the Government, in ways described in Chapter IX.

2.13. A more equitable distribution of income among the people is a long range objective of Government policy. The immediate goal is to increase the number of job opportunities within the country and to encourage private initiative wherever it is evinced. Although it is possible at present for Botswana to find employment on the South African mines, this situation is unlikely to continue indefinitely. The Government has, however, no intention of interfering with this flow of labour to the Witwatersrand; on the contrary it recognises that the mines offer vitally needed employment to men who would otherwise be without work.

2.14. In health and social services, it has not been possible to assign the priority truly wished. Government is aware of the widespread

desire for better medical services, but the stringent financial situation necessitates reliance on foreign project aid for any improvements in this field.

Private Enterprise:

2.15. Implicit in the plans and policies of the Botswana Government is a belief in the capacity of this country to effectively absorb capital investment funds. The building of Gaborone from nothing more than a minor village to a well-equipped capital, of which every citizen may be justly proud, in the space of three years, is an illustration of what can be done. Because of the shortage of local funds, the Government looks not only to other Governments but also to private investors for the finance required to develop the country.

2.16. The expansion of the industrial base – presently very small – is a prime objective of Government policy. Botswana has duty-free access to surrounding countries, an advantage to be fully exploited if industrial development is to occur. In order to attract private investment the Government is proposing to establish a Botswana Development Corporation (B.D.C.). The B.D.C. will be willing to enter into joint partnerships with private investors, or to assist them with credit and in various other ways, as explained in Chapter VI.

2.17. Private enterprise will only be interested in investing in Botswana if they are assured of a stable and friendly environment; if there is a profit to be made; and if they are allowed to export their profits, should they so wish. These conditions the Government accepts. In order to make this quite clear and to create added incentives, the Government offers special fiscal reliefs for new investors and is prepared to examine sympathetically any specific proposals which investors may choose to make. The Government's policy will be, in the case of every proposal, to examine the balance of advantages to Botswana; the costs and benefits will be studied, and decisions made on that basis.

2.18. To foster local participation in commerce, the Government intends to assist the

formation and growth of co-operatives of all types. Credit on generous terms will be made available to co-operatives, and to local businessmen generally, through the National Development Bank. It is intended that Bank credit will also be offered to assist foreign investors, although preference will naturally be given to local entrepreneurs.

Wages Policy:

2.19. Botswana has no comprehensive minimum wages legislation. Wage levels generally are greatly influenced by those pertaining in neighbouring countries and, except in the case of more senior employees, are generally lower. It is Government policy that no employee, either in the urban sector or the rural sector, should be required to work for less than a minimum living wage which enables him to clothe, feed and house himself and his family sufficiently to maintain good health. In this respect the minimum wages paid by Government in different areas for different work are intended as a guide to the private sector.

2.20. Since Botswana forms part of a common customs and currency area, the Government, in formulating a wages policy, is not constrained by monetary problems. It is, however, concerned that labour productivity in relation to wages should compare favourably with that in the remainder of Southern and Central Africa, so that investment is attracted to Botswana and employment thereby expanded. The Government is also concerned that the level of income in the rural sector should not lag too far behind that of persons employed in unskilled occupations in the urban sector. This objective will be achieved by a major drive to raise agricultural productivity through extension services and to ensure that an optimum return is received by farmers for their labour through co-operative marketing.

2.21. At the more senior levels, the heavy dependence on expatriates has given rise to inflated salaries. The long term objective is to reduce the inequitable salary differentials which exist between the subordinate staff and the managerial and professional levels. In most cases this will be accomplished by freezing (if not

reducing) the salaries paid to senior staff and progressively raising the salaries of junior employees as and when increments are justified by overall increases in productivity.

Land Tenure:

2.22. The present system of land tenure was described in Chapter I. The need for reform is recognised and a detailed study of the possible changes which might be introduced is being made. In the townships and large villages it is essential to grant a form of title which offers complete security and enables land to be regarded as a fully negotiable asset. In most cases this means the introduction of freehold.

2.23. In tribal areas, the present system of concessions provides an insufficient basis for the encouragement of investment, and changes in the present law are envisaged, the details of which have still to be decided. On tribal agricultural land progressive farmers must be encouraged to develop their holdings by offering more clearly defined security than that available under customary law. This must be done without endangering the rights of the small farmers.

2.24. On state agricultural land, the rights of long established tribal groups must be assured. The remainder must be opened up to modern agriculture through the establishment of large farms. Since it is anticipated that in the long run progressive local farmers will be settled on these farms, it is not intended to sell state agricultural land outright to foreigners. It is, however, proposed to offer long-term leases in selected areas to non-citizens who possess adequate financial resources to develop properly managed, modern farms. At the same time, settlement schemes will be started, through which it will be possible for Batswana to acquire properly developed modern ranches.

2.25. Mention must also be made here of the area of land known as the Tati Concession. This concession was granted under special legislation in 1911 and is now owned by Tati Company Limited. Government is not satisfied with the present state of development in a number of res-

pects within the Concession area and intends to take adequate measures, including the introduction of such legislation as may prove necessary, to secure its proper development to the benefit of all its inhabitants.

Shashi Complex:

2.26. The Shashi Complex is the one major development scheme at present envisaged capable of making a dramatic impact on the economy. The development of copper mining at Matsitama, copper/nickel mining at Sedibe/Pikwe and diamonds at Letlhakane, accompanied by industrial development at Francistown and Shashi Siding, when ample water and power supplies are made available, and the possibility of the production of salt and soda ash at Sua, will transform an entire region of the country. It is for these reasons that such a large proportion of the development expenditure in this Plan is to be devoted to infrastructure in this area.

2.27. Apart from the development of the mines themselves, the Shashi Complex will involve the construction of one or more dams, a major power station, all-weather roads linking the mining areas to the North/South road and four mining townships. The details of these developments are set out in Chapter VII. The current estimate of the total cost of the physical infrastructure is tentatively given as R35 million, to be phased over the Plan period.

2.28. Detailed studies of the feasibility of these developments, by the mining companies on one side and by World Bank consultants on the other, are now being made. It is anticipated that a final decision will be possible before the end of 1968. Available evidence so far indicates that the prospects for a favourable outcome are excellent. Nevertheless, there remain many difficult problems to be solved.

Communications:

2.29. The great distance between population centres and the difficulties of access have greatly retarded the development of Botswana's natural resources. Improvements in the standard

of the road network must be related, however, to the traffic density. It is true that by upgrading key roads development will be encouraged, but it would be economically unsound to over-invest in road development to the detriment of other sectors. The Government believes in the balanced development of the physical infrastructure and the allocation of finance for road improvement must be determined by strictly realistic projections of vehicle movements. The proposals for road improvements, contained in this Plan are described in Chapter VIII.

2.30. Good air services and telecommunications provide an essential concomitant to the road network. The Government believes that, in particular, a good telephone system yields dividends in terms of assisting overall development easily justifying its cost. This Plan therefore envisages a substantial expenditure on telecommunications, all of which is considered loan-worthy. With regard to air services, systematic improvement of existing airfields will enable more frequent flights to be scheduled with increased safety.

Water Resources:

2.31. The recent drought which lasted five uninterrupted years provided a brutal demonstration of the country's vulnerability resulting from its scanty and poorly developed water resources, and showed clearly the vital necessity for the careful conservation and rational exploitation of the resources that do exist. The development of water supplies in such circumstances is much more costly than in countries better endowed with sources of supply, and this factor in turn makes all other kinds of economic development more difficult and costly. Nevertheless, without adequate supplies of water development is impossible, and the provision of water supplies must take high priority in the development programme. A prerequisite of the exploitation of water resources is the collection and study of hydrological information. To this end, the Government is embarking on a comprehensive project which will establish a basic hydrological network and carry out a hydrological survey of the Limpopo River catchment and the Okavango

area, and assist in setting up a hydrological service.

2.32. Dry-land arable farming in most parts of Botswana is a hazardous, marginal activity. Even the best farmers can obtain only subsistence crops in years of drought. Only by expanding the acres under irrigation will it be possible to assure the country of its food supplies under all conditions. Irrigation farming offers the best way of increasing the production of cash crops, thereby reducing the economy's dependence on the livestock industry. Provision is therefore made in this plan for pilot irrigation schemes where experimental work can be carried out to determine optimum methods of irrigation cultivation under Botswana conditions. With this data and the results of the hydrological survey the way will have been cleared for the exploitation of the enormous irrigable potential of the Okavango Delta area.

2.33. Increased output of the livestock industry – the country's major productive sector – depends greatly on opening up new grazing areas through the establishment of water supplies, and backing this with a concentrated input of extension services and the development of the educational system. In the first instance this means continuing the exploration of underground water supplies undertaken by the Geological Survey Department and providing loan capital, through the National Development Bank, for repayment boreholes. In addition, the construction of a large number of small earth dams within a specific catchment area, accompanied by detailed land use planning, would enable both cattle and people to be spread more evenly over the land, and thus permit integrated farming. A start is being made with this approach in the Metse-motlhaba area, as described in Chapter IV.

2.34. The improvement of domestic water supplies in the rural areas is handicapped by the high cost of dams and the apparent reluctance of individuals to accept that good water supplies must be paid for. Provision, however, is made for the construction of dams in key places where the shortages are particularly acute (see Chapter III). Meanwhile, wherever possible the Government will press for water

supplies to be placed on an economic basis and subsidies will be progressively eliminated.

Agricultural Sector:

2.35. Although it is highly desirable to seek ways of reducing the economy's dependence on the agricultural sector, it will nevertheless be necessary to look to this sector, and in particular to livestock, in the immediate future for the main increases in the national income. The standard of living in the rural areas can be enormously improved through the introduction of better arable farming and animal husbandry techniques. To this end a large allocation of funds will be made on projects aimed at the improvement in the quality of livestock and increasing crop production. Research to back the extension service will be intensified. The detailed proposals are set out in Chapter IV.

External Economic Relations:

2.36. The nature of Botswana's existing economic relations, its geographical position, as well as the size of the country, calls for a policy of maintaining friendly relations with as many countries of the world as are well disposed towards Botswana. To Botswana's neighbours, the Government will observe a policy of good neighbourliness, except that in all international relations the policy shall always be that of placing the interests and welfare of Botswana first and yet allowing reason, not sentiment, to determine the Government's attitude and conduct towards other nations.

2.37. It has been explained in Chapter I that Botswana is linked to the Republic of South Africa by a Customs Union and a joint monetary system. The present arrangements have both advantages and disadvantages for the economic welfare of Botswana.

2.38. The Customs Agreement, whilst relieving Botswana of the burden of costly customs administration, means that the increase in revenue accruing to the Exchequer from this source is not related to the growth in economic activity within the country. The actual tariffs levied are determined by South African interests.

High protective duties imposed to protect South African industry tend to diminish the total revenue collected and therefore that part accruing to the Botswana Exchequer. In such cases the diversion of consumers from cheaper overseas imports to more expensive South African manufactures results in a transfer of spending power from Botswana consumers to South African producers or, in other words, the subsidisation of South African industry by Botswana.

2.39. A Customs Union between a rich and a poor nation normally produces a polarity of economic development, with the better endowed areas growing at the expense of the poor areas. In recognition of this process, it is necessary to make some provision for the automatic redistribution of resources towards the poorer partner. The Botswana Government will therefore seek to negotiate with the Government of the Republic of South Africa a more equitable customs arrangement.

2.40. Although Rand currency is legal tender in Botswana, the Government is not represented on the Board of the Reserve Bank of South Africa and has no way of influencing South African monetary policy where it adversely affects the Botswana economy. Botswana does not receive the interest (about R100,000 p.a.) on the monetary reserves held by the Reserve Bank as backing for the currency in circulation in Botswana and Botswana has no share of the fiduciary issue of the Republic. In this field, too, the Botswana Government will seek to negotiate a more favourable arrangement.

2.41. The questions of new customs and currency arrangements are intimately linked, since balance of payments problems which might arise if a national Botswana currency were introduced would necessitate some control over external trade. Meanwhile the Government states its intention to take no precipitate action to alter the existing customs or currency arrangements.

Allocation of Funds:

2.42. The details of the proposed public expenditure programme are given in Part II of the Plan. The allocation of funds on capital projects is summarised in Table IX. The factors determining the overall totals are explained in Chapter XII. The programme envisages a total capital expenditure of just over R69 million for the five year period 1968/73. This includes a sum of R36 million to be spent on the Shashi Complex, with a peak expenditure of R22.6 million in 1970/71.

2.43. A sectoral analysis of projected capital expenditure is given in Table X. It will be seen that during the period 1968/71 67.4% of the total expenditure has been allocated to physical infrastructure and 19.7% to water resources.

Social infrastructure expenditure will account for 6.5% of the total and the agricultural sector for 3.5%. This apparently disproportionate allocation of expenditure to physical infrastructure is largely explained by the dominant size of the Shashi Complex.

2.44. On the recurrent budget total expenditure for the period 1968/71 is estimated at R39.8 million with 30% allocated to general administration, 19.4% to physical infrastructure, 17% to agriculture and 16.8% to social infrastructure. A full sectoral analysis is given in Table XI. The annual increase envisaged is about 10% per annum, which is approximately equal to the anticipated growth in internal revenue.

Chapter III—Water Resources

General:

3.1. Shortage of water supplies is a major limiting factor in the development of Botswana. It limits the number of cattle which can be supported, the extent of arable farming which may be safely carried on and the development of urban centres and their associated industries. Water problems affect the lives of the mass of the population more, probably, than any other single factor. Natural watering points for both stock and humans are few and far between. They are seldom permanently reliable. Devastating droughts perennially recur. The crowding of stock, especially in periods of drought, around the best water sources results in devastating overgrazing.

3.2. Despite the apparent aridity, considerable water resources do exist and can be developed. The annual rainfall varies from 24 inches in the extreme north east to 8 inches in the extreme south west, with an average of about 17 inches for the whole country. Virtually all the rain falls between October and March but is often concentrated in quite short periods. In a given place the minimum annual rainfall may be as little as half or as much as double the annual average.

3.3. The most obvious unexploited water resource is the Okavango Delta which annually receives some seven million acre-feet of water from Angola. However in economic terms the run-off from the ephemeral rivers of the Limpopo Watershed is of greater immediate significance. The bulk of the population live in the eastern part of the country and most development will take place there. It has been estimated that every year Botswana experiences a run-off of at least one million acre-feet from this area. Storage dams and weirs would, if properly placed, considerably reduce this annual loss of water. Although the rivers flow for only a few days each year very large quantities of water can be retained, as has been demonstrated by the construction of the Gaberones and Lobatsi Dams. In the larger ephemeral rivers, millions of gallons

are stored in the sand of the river bed, and may be extracted from wells.

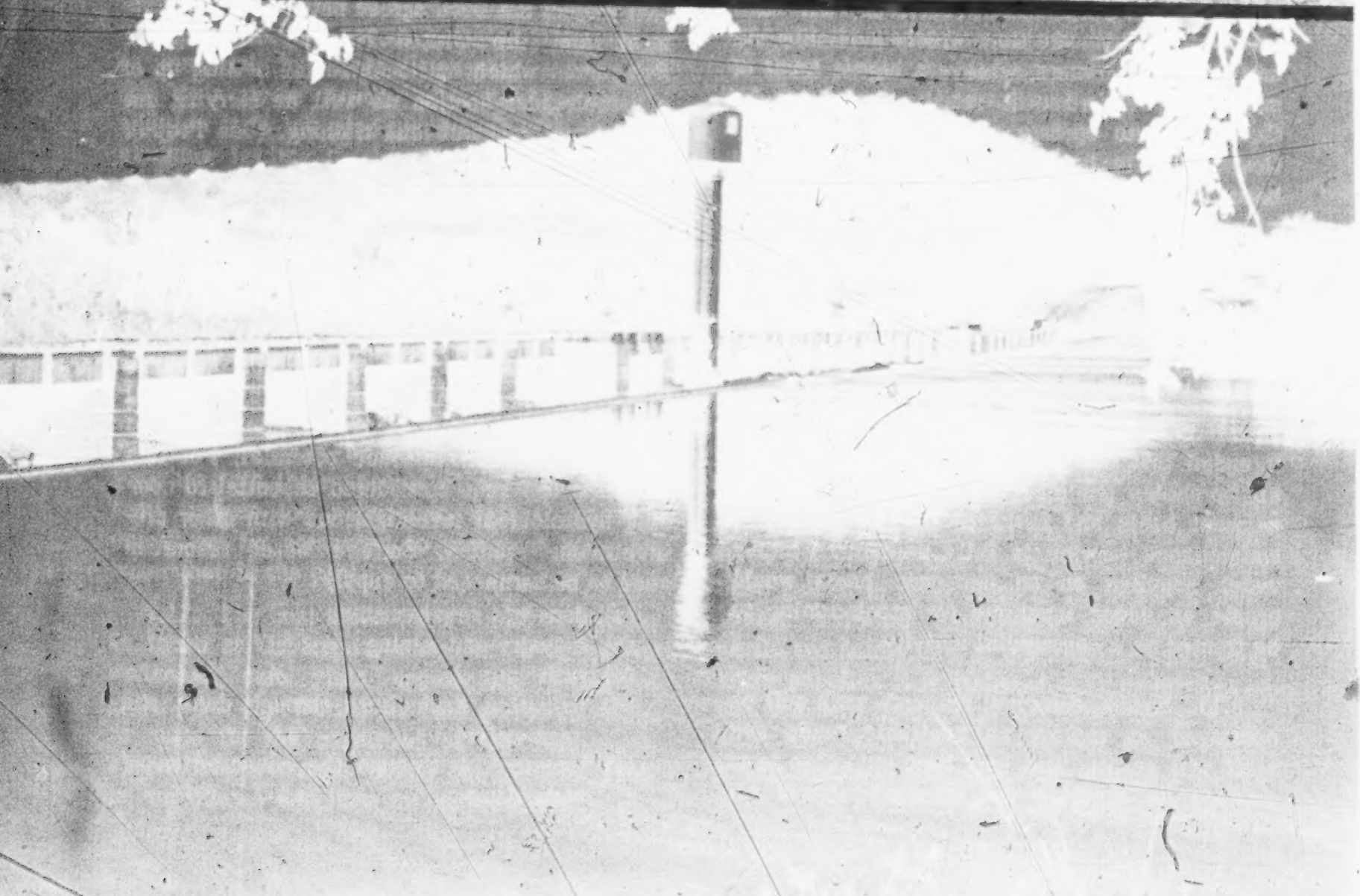
3.4. Over three quarters of the country is covered by Kalahari sand, which absorbs all the rainfall without causing any runoff. Grass grows with relative abundance here but there are no streams at all. In certain localities shallow pans hold water for much of the year. In other localities, where there are calcareous deposits, aquifers are found where shallow wells may be sunk.

3.5. In many parts of the country, excluding the central Kalahari, small supplies of underground water can be found by drilling at geologically selected sites. Hundreds of boreholes have in fact been drilled, opening up vast areas to grazing. Boreholes, coupled in some areas with sand extraction from river beds, have made possible the development of nearly all of Botswana's towns. But with the exception of Serowe and Ghanzi, where there are particularly good aquifers, no boreholes supplies have proved adequate for towns. Most are now critically short of water with no easy solution in sight.

3.6. In view of the scarcity of water it is essential that this resource be treated as an economic asset. The Government is determined that the users of water should themselves meet its cost or if there must be a subsidy, that the size of the subsidy is clearly identified and made known. Only when the cost of water is fully appreciated is it likely that the most economical use of it will be made.

3.7. Legislation governing the abstraction of surface and underground water was enacted in the Water Act of 1967; the orderly development of water resources will be achieved through the establishment of a Water Apportionment Board responsible for allocating water rights to different water users. To assist in the co-ordination of the development of surface and underground water resources an Inter-Ministerial Water Development Committee has been established.

A village borehole.
Mogobane Dam (Samalete).



Underground Water Supplies:

3.8. The Geological Survey Department undertakes the exploration of underground water resources as part of its general geological survey activities, and also runs an organisation for the drilling of boreholes. Apart from the boreholes sunk by private persons using their own resources, boreholes are drilled either for Government use or for stock-owners under the Borehole Repayment Scheme. During the next three years it is planned to drill and equip 75 boreholes under the latter scheme. The cost will be met through loans from the National Development Bank awarded to either individuals or syndicates of farmers who can offer the necessary security. In addition to the Borehole Repayment Scheme about five boreholes will be required to be equipped each year at Government expense for special needs.

3.9. Borehole equipment is only efficient if it is properly maintained. Government would like to see private enterprise providing the public with borehole maintenance services, but until private mechanics are more widely available and until borehole owners achieve a higher level of mechanical expertise it remains essential for Government to operate a maintenance service. Government is building up a semi-commercial borehole maintenance service charging fees, which will be gradually increased. Although a degree of subsidy is required initially, the intention is to make the service self-financing in the long run.

3.10. The Government considers it highly desirable that the true cost of providing water should be brought home to cattle owners. It is intended that this will be achieved by placing all boreholes provided by Government on a repayment basis and insisting that Government's maintenance service is fully paid for. Placing water supplies on an economic basis would create an added incentive for stock-owning to be treated as a commercial activity.

3.11. Hydro-geological research work will be continued as rapidly as available funds and staff will permit. The long term objective is to produce an accurate and detailed map of all

Botswana's underground water resources. This is particularly necessary for long term socio-economic planning especially as very large tracts of the country cannot be supplied from surface water sources. This work involves geophysical surveys; the maintenance of accurate hydro-geological records; research into new geophysical methods; the drilling of observation boreholes; the study of the relationship between pumping, drawdown and rainfall; the dating of groundwater using naturally occurring radioactive isotopes; and the systematic chemical and temperature analysis of waters from all boreholes.

Surface Water:

3.12. Proper planning of the use of surface water can only be undertaken once comprehensive hydrological data have been collected producing a sound technical basis for the construction of dams and weirs. The information presently available is totally inadequate. To meet this need an inter-disciplinary investigation project has been agreed between the Government and the United Nations Development Programme which will include the setting up of a hydrological section as well as carrying out agricultural research and training. (See Project ID 02 in Part Two).

3.13. The expenditure of funds on the collection of hydrological data can only be justified if the knowledge acquired will open up new opportunities for productive investment or enable the Government to provide essential services more cheaply than would otherwise be possible. Moreover, it is vital to concentrate hydrological data collection in those areas which seem to have the greatest economic potential. For this reason it has been considered essential to combine hydrological investigations with other pre-investment studies. Surface water resources need to be harnessed to supply:

- (a) domestic requirements;
- (b) industry and mining;
- (c) railways;
- (d) irrigation agriculture through dams and sand-wells;
- (e) livestock - through the construction of earth dams.

There are two regions where the systematic collection of hydrological data is proposed: (a) in the Okavango River Drainage System and (b) in the Limpopo Basin.

3.14. Preliminary soil surveys in the Okavango Delta area have indicated that there are large areas of potentially irrigable land where maize, rice, cotton, jute and many other crops could be successfully grown if the associated engineering, social and transport problems can be solved. Agronomic trials at Moshu Agricultural Experimental Station in Ngamiland have demonstrated that average yields of cotton of over 1,800 lbs. per acre can be obtained on seasonally flooded land. In this Plan it is proposed to carry out the additional hydrological and agronomic experimental work necessary for the planning of detailed irrigation schemes in this area.

3.15. The Limpopo Basin contains the main commercial and administrative centres many of which are critically short of water. Over 80% of the population lives in this area. Furthermore some 16,000 acres of potentially irrigable land have been identified in a preliminary soil survey. The Government therefore proposes in this Plan to establish hydrological gauging stations on the main rivers flowing into the Limpopo. In addition it is intended to proceed with detailed planning leading to the construction of multi-purpose dams in key places where water is required for irrigation as well as for industrial and domestic purposes. These projects are described in Part II.

3.16. An immediate problem to be faced is the acute shortage of water in the major traditional villages such as Kanye, Mochudi and Molepolole. Although there are suitable sites where dams could be built, the cost of dams together with their associated reticulation systems appear too expensive, unless domestic users can be persuaded to pay much more for water than in the past.

3.17. The best urban water supply at present is found at Gaberones, where the Dam has an estimated safe yield approaching 5 million gallons per day. During the Plan period provision is made for the expansion of the reticulation system and treatment works, but the dam itself is considered adequate for at least ten years.

Lobatsi, however, is less fortunate; there it is anticipated that shortages will soon be experienced which cannot be met from the catchment area supplying the present Nuane Dam. During the Plan period the spillway will be heightened to obtain the maximum economic yield possible; within ten years a new source will have to be located. The immediate position at Francistown is even worse, but completion of the Shashi dam, as part of mining complex infrastructure, will solve the town's water problems for a long period to come.

3.18. In the long term the country will need to draw upon the vast water resources of the Okavango. For many years water engineers in Southern Africa have been devising schemes to pipe water from the north-west of Botswana to major population centres in the South-East. If large scale mining developments occur in the and Matsitama areas, these proposals could become economically attractive.

3.19. Water supplies in rural areas are mainly drawn from boreholes. These have an average capital cost of R3,000: there are also maintenance and running costs to be met. Furthermore in many places the underground water is either too deep or too saline to be used. The construction of small earth dams offers an alternative source of water which is often cheaper. A mechanised dam building unit capable of constructing up to 30 dams in a year has been established. This will not only permit the opening up of new grazing, but will also allow farmers to reside permanently at their "lands" and reduce the demand for water in the larger villages. The unit is operated by the Agriculture Department and is further described in Chapter IV.

3.20. Large areas of the country, though producing relatively abundant grass, are deficient in both underground water and dam sites. It is intended to use the experience which has been gained in other parts of the world in developing artificial catchments and haffirs for cattle and family use. In constructing small rural water supplies it is intended to make full use of the self-help (Ipelegeng) movement whose keenness has been demonstrated but which needs expert technical guidance. This guidance will be provided by a technician in the Water Branch.

Chapter IV—Agriculture

General:

4.1. Although it is intended to diversify the economy by the development of mineral deposits and secondary industries, for many years to come agriculture will remain the most important industry in Botswana and therefore any significant improvement in the standard of living of the majority of the people will largely depend upon the improvement and development of the agricultural industry.

4.2. At present, over 90% of the working population are engaged in agriculture. Livestock and livestock products account for approximately 90% of national exports. Most Botswana depend for their food requirements on the cultivation, on a subsistence basis, of crops such as sorghum, maize, millet, cowpeas and beans.

Livestock Offtake:

4.3. Over 80% of the cattle in Botswana are owned by Africans and are grazed on tribal land on a communal basis. The remainder are ranched on freehold farms located in blocks at Ghanzi in the west, along the Molopo in the south and in the Lobatsi Block, the Gaberones Block and the Tuli Block in the east and south-east and in the Tati District in the north-east.

4.4. The livestock population is currently estimated at 1,100,000 cattle, 647,000 goats and

212,000 sheep. The effects of the recently ended drought can be seen in the following cattle population figures:

1963	1,350,000
1964	1,347,000
1965	1,097,000
1966	918,000
1967	1,100,000

Cattle losses during the drought, which was most severe in 1965/66, were valued at over R8 million.

4.5. All slaughter cattle sent forward for export are handled by the Botswana Meat Commission, a statutory corporation which operates the only export abattoir in Botswana. The abattoir is located on the line of rail at Lobatsi in the south of Botswana. Meat inspection, carcass grading and abattoir hygiene are the responsibility of the Department of Veterinary Services.

4.6. In the past, some cattle were exported on the hoof to Zambia and Rhodesia. These exports of live cattle have now ceased and all cattle for export will, in the future, be processed through the abattoir at Lobatsi.

4.7. The disposal of live cattle and of the carcasses resulting from slaughter in 1967 is shown below with comparative figures for the previous four years:—

	1963	1964	1965	1966	1967
Beef Carcasses					
South Africa	39,627	34,848	32,940	17,465	37,672
Other African Markets	14,486	15,052	17,995	13,813	14,567
Overseas (mainly U.K.)	46,593	59,172	86,824	97,287	34,839
Condemnations	2,700	2,886	5,177	3,667	1,457
Total slaughter	103,406	111,758	142,736	132,232	88,535
Live Cattle Sales					
Zambia and Rhodesia	17,848	15,045	19,568	16,422	7,367
TOTAL OFFTAKE from the Cattle Industry	120,754	126,803	162,304	148,654	95,902



4.8. The heavy offtake in recent years was caused by the drought when cattle owners were forced to sell cattle which would otherwise have died from poverty. In addition, when there is widespread crop failure farmers are forced to sell cattle to obtain money to buy food. These forced sales have increased the awareness of the value of livestock as economic assets rather than as status symbols.

4.9. Provided water resources could be developed in such a way to enable the cattle to be distributed evenly over the available grazing areas, Botswana could support a national herd of approximately 2,500,000 cattle. Government's long term objective is to build up the national herd towards this level and to achieve an export target of about 200,000 head per annum.

4.10. For the more immediate future it is estimated that the throughput at the abattoir will be as follows:

	1968	1969	1970	1971	1972
No. of cattle	90,000	95,000	110,000	120,000	130,000

The low figures for 1968/69 reflect the reduction in the size of the national herd which occurred in 1965 and 1966. Heavy rains in 1966/67 led to a rapid improvement in the grazing and calving percentages in that year were very high, which led to a significant recovery of the national herd.

Disease Control:

4.11. Exports of livestock and livestock products from Botswana are periodically interrupted by outbreaks of foot and mouth disease which occur most frequently in the north-west of the country. The consequences of these outbreaks are very damaging to the economy of Botswana. To control the spread of foot and mouth disease within the country, a system of disease control fences has been established which divide the country into four main quarantine areas. Movement of livestock from one quarantine area to another is very strictly controlled and is only allowed if the livestock are moved through quarantine camps operated by Government.

4.12. To gain a further measure of control over the disease, annual vaccination of all cattle, sheep and goats in the north west of Botswana was commenced in 1965. These vaccinations are against the SAT 1 and SAT 3 virus which are the types of foot and mouth disease most frequently occurring in Botswana. Annual vaccination against foot and mouth disease builds up an ever increasing immunity in the livestock so that, should an outbreak occur, it would be in a mild form which could be eliminated by repeating the vaccinations in the infected area.

4.13. Prior to adopting the policy of control by vaccination, outbreaks of foot and mouth disease were eliminated by infecting all the animals in the quarantine area with live virus so that all the stock caught the disease and then recovered. This method of control is no longer practised, as it was found that by infecting the domestic livestock population in an area where there were big game concentrations, the disease caused heavy infection in the game which migrated and thus spread the disease.

4.14. A system of mobile teams is maintained whereby constant and intensive monthly inspections are carried out in the disease prone areas. By this method, outbreaks of the disease can be detected in the early stage and immediate measures taken to combat its spread.

4.15. In order to gain further knowledge of the disease, research work into its epidemiology and the response in animals to vaccination is being carried out in conjunction with the Animal Virus Research Institute at Pirbright.

4.16. Inspections of the foot and mouth disease control measures practised in Botswana have been made by veterinary authorities from South Africa and from the United Kingdom, who have expressed their satisfaction with them.

4.17. In addition to the measures adopted to control foot and mouth disease, free compulsory annual vaccinations are carried out against anthrax and quarter evil. Rabies eradication campaigns are undertaken when necessary and,

subject to the availability of funds, vaccination campaigns against botulism and contagious abortion are carried out.

4.18. Recently the incidence of measles in cattle has risen to over 15%. In 1966, 13.2% of the carcasses of cattle slaughtered at the abattoir in Lobatsi were detained because of measles. This represents a loss to producers of approximately R250,000. This problem can only be tackled by the eradication of tapeworms in humans and by persuading the population at large to adopt better sanitary habits. In this Plan funds are allocated to commence a project designed to reduce the incidence of measles through both a public health programme and curative measures. (See Project VE10)

4.19. Government recognises the importance of these disease control measures as an essential pre-requisite for a prosperous livestock industry and regards expenditure on them as a necessary continuing commitment.

Tsetse Fly Control:

4.20. Tsetse Fly (*Glossina morsitans*) infests the greater part of the Okavango Delta in the north-west of Botswana, and parts of the Chobe District. Without control it would spread, making the main population centres in the north and north-west uninhabitable. For many years the Government has maintained a Tsetse Fly Control Unit which has successfully halted the spread of the fly and reclaimed some areas for resettlement.

4.21. The control of tsetse fly in Botswana is of benefit not only to this country but also to neighbouring countries which are protected. The cost to Botswana is approximately R200,000 per annum, equivalent to the value of about half of the total cattle marketed from the north west of the country each year. This is an international problem and must be recognised as such.

4.22. Whilst in the past the tsetse fly control policy was essentially a holding operation, employing principally methods of bush clearing to prevent further encroachment of the fly into cattle ranching areas, recently a technique of

selective ground spraying of breeding sites has been developed. This method has proved highly successful from the point of view of both control and costs. In future, control will be achieved by the progressive eradication of the fly, thereby releasing new areas for livestock and human habitation. The success of the present campaign has given an additional impetus to the agricultural/hydrological surveys to be conducted in the Okavango area over the next three years, assisting in the realisation of the enormous potential for irrigation development using water from the Okavango.

The Dairy Industry:

4.23. In the past it was not considered possible to develop the dairy industry as a surplus of butter was produced in Southern Africa. More recently, South Africa has become a net importer of butter and now opportunities exist for the Botswana dairy industry. Output of butter fat reached approximately 480,000-lbs. in 1967 and is growing steadily. A 2c per lb. levy is collected and the proceeds devoted to improving the industry. Over the past eighteen months 45 small dairies have been constructed by Government on behalf of local farmers. The present target is to construct some 40 dairies each year for the next three years. Each dairy will be of a simple type, capable of construction at the cattle post, with a water cooled cream chamber. Each dairy costs R240 to complete; credit facilities will be provided for this purpose by the National Development Bank. Once output has reached a reliable 500,000 lb. per annum level in eastern Botswana, it will be feasible to establish a local cream factory.

Crop Production:

4.24. It is estimated that there are approximately 11 million acres of potentially cultivable land of which some 10 per cent is under crops or recent fallow. Almost all cultivation takes place either along the eastern watershed or in Ngami-land. The table below illustrates the position:

	Total Land Area (in acres)	Estimated Cultivable (in acres)	Cultivation & Recent Fallow (in acres)
Eastern Watershed	R 23,970,000	8,170,000	1,227,000
Ngamiland	28,017,000	2,700,000	90,000
Chobe	5,120,000	258,000	11,000

4.25. Rainfall is highly variable and in many years is hardly sufficient to give a crop. In the past ten years, four harvest failures were recorded. Crop production figures have not so far been collected; however, rough estimates for the main crops have been made by the Agriculture Department, and those relating to the past two seasons are given in the table below:

	1966		1967	
	Acres	Quantity	Acres	Quantity
Cereals	94,500	4,700 tons	700,000	100,000 tons
Pulses	4,500	120 tons	15,000	6,000 tons

4.26. The considerable variation between the 1966 and 1967 crops is explained by the fact that 1966 was a drought year whilst in 1967 rainfall was unusually high. In addition to the staple crops, cotton, groundnuts and oil seeds are produced in small quantities on dry land. In the Tuli Block there are 2,500 acres under irrigation mainly producing cotton, citrus, potatoes and onions in quantities dependent on the market situation.

4.27. Surplus cereals and the various cash crops produced are exported mainly to South Africa. Botswana has free and unrestricted entry to the South African markets, although marketing is supervised by the various control boards in operation there.

4.28. Effective planning of agricultural development depends partly on the availability of detailed statistics. During the 1966/67 crop season a nation wide pilot sample survey was conducted under the supervision of an F.A.O. agricultural statistician. A wide range of data was collected on such topics as the number of farm holdings, acreage, production, livestock and farming implements. During the 1967/68 season a follow up survey is being carried out. The experience gained will be used for the planning of a full-scale national survey to be conducted in 1968/69.

4.29. The main objective in the agricultural sector is to make Botswana self-sufficient in foodstuffs, and at the same time to improve the dietary value by increasing the relative output of protein rich foods. On this basis the following crop production targets have been set for 1970:

	(Short tons)
Cereals	99,000
Pulses	14,000
Fruit & Vegetables	78,000
Roots	15,500

4.30. The second objective is to expand the production of cash crops using resources released by better yields of food crops. In particular, it is hoped to increase the production of dry-land cotton and sunflower seed in Eastern Botswana and Ngamiland and groundnuts in south-east Botswana. Investigation of possible new cash crops such as safflower and jute will be conducted.

Agricultural Extension Service:

4.31. In order to improve traditional methods of agriculture, the Department of Agriculture operates a Pupil Farmer Scheme. Under this scheme farmers are supervised in groups of twenty or thirty by trained agricultural demonstrators. The farmers advance through various grades as follows - Pupil Farmer; Progressive Farmer; Improved Farmer and Master Farmer. The average size of the holding is approximately 40 acres. The main crops grown are sorghum, maize, beans, cowpeas and cotton. A good farmer in a reasonable year can gross over R500, and even in periods of serious drought can produce sufficient food crops for subsistence.

4.32. There is an estimated total of 60,000 to 70,000 farmers in Botswana. At present there are approximately 105 Agricultural Demonstrators supervising just over 200 Pupil Farmers, 1,500

Improved Farmers, 160 Progressive Farmers and 66 Master Farmers. In addition, there are 38 animal husbandry demonstrators assisting 665 Pupil Stockmen and 10 Improved Stockmen.

4.33. It is Government's intention to expand this extension service as rapidly as possible and 50 new demonstrators will be trained each year at the recently opened Botswana Agricultural College. The major extension effort will continue to be concentrated in the Pupil Farmer Scheme and Pupil Stockmen Scheme and the majority of the output of the new Agricultural College will be employed in these schemes. By 1975 it is intended to have a cadre of 250 demonstrators.

4.34. In a vast country such as Botswana, with a widely scattered population, it is only possible to reach a small proportion of the farmers using such an individual approach. It is necessary, therefore, to supplement these methods with mass and group methods of extension. One of the best ways of reaching a wide audience is through radio, and a daily agricultural and veterinary radio programme has now been established. The United Kingdom Committee of the Freedom from Hunger Campaign provided funds to purchase 1,000 radio receivers which have been distributed to listening groups all over the country.

4.35. Another way in which a large number of farmers can be reached is by running courses for them at the Rural Training Centres. One of these centres has already been established near Gaberones and the old Mahalapye Agricultural Training Centre will be converted into another during 1968.

Livestock Development:

4.36. The two avenues for the development of the livestock industry are:

- (i) an improvement in the quality of the livestock; and
- (ii) an expansion in the size of the national herd by making available new areas of grazing by improving the distribution of watering facilities.

Item (i) is dealt with below and Item (ii) under the Section entitled: "New Grazing Areas".

4.37. In order to achieve a properly co-ordinated programme of development in the field of animal husbandry, a co-ordinating committee has been established and senior officials of the Departments of Agriculture and the Department of Veterinary Services comprise this committee. The activities of extension officers in both departments are controlled by means of directives issued by this committee.

4.38. The Department of Agriculture is in the process of establishing seven demonstration ranches with funds provided by the Oxford Committee for Famine Relief. Farmers will be able to send cattle to these ranches to be fattened up before being sent to the abattoir. They will also be able to send oxen to these ranches towards the end of the winter so that they will be in good condition for ploughing as soon as sufficient rain falls. A pilot demonstration ranch was operated in 1967/68 and proved successful. The principal object in establishing these ranches is to give farmers practical demonstrations of the advantages of employing improved methods of animal husbandry.

4.39. The Department of Agriculture operates a pupil stockman scheme in the more settled areas of eastern Botswana. It is proposed to set up in 1968 a mobile animal husbandry team to service the more remote areas which cannot be covered by the pupil stockman scheme. At present a small pilot unit is operating in the north-west of Botswana. The experience gained from the operation of this unit will assist in the planning of the main project. If the first mobile team proves successful an additional team will be established in 1970.

4.40. The Department of Veterinary Services also operates a small mobile team which makes available to stockowners, on repayment, veterinary drugs and requisites and bonemeal. This team, which has been operating only for a very short time, has proved to be highly popular and successful and it is intended to increase its activities.

4.41. A Bull Subsidy Scheme is operated and is financed from the Cattle Export Levy Fund. Under this scheme bulls are bought by a Government purchasing team and are sold to stockowners for half their original purchase price. Over the past three years over 1,000 bulls have been sold under this scheme. The aim is to step up the supply of bulls and to gradually abolish the subsidy. This latter will be achieved by buying in young bulls, holding them until they are mature and selling them at a fair but not subsidised price. This scheme is designed to assist those stockowners who could not otherwise afford animals of a reasonably high grade.

4.42. Associated with the Bull Subsidy Scheme is the Brahman In-service Scheme and a project for artificial insemination. Both schemes are of particular value to small stockowners who are unable to purchase bulls. Under the Brahman In-service Scheme, cattle owners send their breeding stock for service by Brahman bulls belonging to the Government. These bulls are held at various centres throughout the country. Over the next five years this scheme will be expanded to cover all the main cattle areas of Botswana.

4.43. In 1967 a pilot project to investigate the practicability of using artificial insemination as a method of improving livestock was undertaken. The results were most encouraging and it is now planned to establish an artificial insemination service at eight centres each capable of accommodating approximately 500 head of breeding stock continuously.

4.44. Schemes are also planned for the improvement of the 212,000 indigenous sheep and 647,000 goats in Botswana. Good quality Dorper Rams and Boer Goat Rams will be supplied to the public at subsidised prices under a project to be managed on similar lines to the Bull Subsidy Scheme. Karakul sheep are being kept in increasing numbers in south-west Botswana to such an extent that the karakul industry may now be regarded as providing the main livelihood for a number of communities in this area. To assist these people, Government intends to negotiate an agreement with the appropriate South African authorities for the orderly market-

ing of pelts. The Government will develop its own stud flock of karakul sheep in order to provide high quality rams for purchase by karakul farmers.

New Grazing Areas:

4.45. Overstocking, resulting mainly from large concentrations of cattle around a limited number of water points, has resulted in widespread destruction of the natural grazing, particularly in the east of Botswana. To achieve a better distribution of livestock it is necessary to increase the numbers of water points and to control the numbers watered at each point, so as to prevent over-grazing and the denudation of the veld and soil erosion which results.

4.46. Government proposes to achieve these objects in the following ways:

- (a) by sinking new boreholes financed on a loan repayment basis;
- (b) by the construction of stock dams, using a mechanised unit;
- (c) by pumping water from sandwells and permanent pools and from stock dams mentioned above and reticulating it by means of polythene piping to prevent over-concentrations around the water source;
- (d) by educating the public to adopt proper conservation measures and persuading local authorities to promulgate appropriate conservation regulations.

4.47. In the past, Government has provided free boreholes in tribal areas; this practice has been discontinued. It is most important that sinking of boreholes should be placed on an economic basis, and that those who benefit should meet the cost. Loans will be channelled through the National Development Bank, enabling individual stockowners or groups of stock owners formed into syndicates to sink boreholes. The Government proposes to allocate R100,000 per year of development funds, which will enable some 25 boreholes to be drilled and equipped annually.

4.48. At present there are large tracts of state land in the west, north and south of Botswana which are suitable for ranching but which are unoccupied. The Ghanzi and Molopo settlement schemes will be expanded over the Plan period. In addition, schemes will be considered for opening up new areas, particularly in the north and central State Lands. The interest of large commercial enterprises with sufficient resources to develop large ranches is sought. The key limiting factor is the availability of water, but areas do exist where water prospects are good.

4.49. In general, Botswana stockowners do not possess the capital required to undertake pioneer ranching on undeveloped State Land. Many of those wishing to move onto State Land own cattle but they cannot sell these to finance boreholes, fencing and similar expenditures, as they would then lack the raw materials necessary to farm. The development of State Land may be accelerated by the establishment of settlement schemes where fenced and watered farms are laid out. These would be allocated to farmers by a settlement board and extension workers would be attached to the scheme to teach settlers modern animal husbandry techniques. This approach would ensure that the settlers were not introducing traditional wasteful farming methods on virgin ranching land. During the Plan period it is intended to start a pilot settlement scheme at Makalamabedi for Ngamiland stock owners and it is intended to start a similar scheme in southern Botswana in an area about forty miles from the Lobatsi abattoir. (See Project VE14).

Land Tenure:

4.50. In areas of State Land which are opened up, Government can introduce whatever form of land tenure it thinks appropriate. In tribal cases, however, the traditional system of agriculture and land tenure places a number of obstacles in the way of development. It is common for the livestock to be kept at cattle posts many miles distant from the cultivated lands, thus making the introduction of integrated farming difficult. Because of the shortage of water, natural watering points belong to the tribe and everyone has

access to them; fencing is generally prohibited. It is therefore difficult to secure proper control over grazing. The Government will make energetic efforts at all levels to persuade the people to accept modifications of the traditional system of agriculture and land tenure, adapting them to present conditions and modern requirements. This change will be achieved by persuasion and education rather than by compulsion.

4.51. Customarily, the allocation of land is in the hands of the chiefs and their subordinates. In normal conditions the farmer has security of tenure. However, there are definite signs that farmers want greater security of tenure, particularly the progressive farmers. To meet this situation the Government will consider the introduction of Tribal Land Boards to control the allocation of land and thereby reduce the arbitrariness of the traditional land allocation system. This will encourage progressive farmers. In the course of time it should be possible to evolve a system of land tenure, in what are at present tribal areas, which will give sufficient security for the raising of loans for development purposes.

Land Use Planning:

4.52. Very little land use planning has been carried out in Botswana in the past. In 1967, a programme of small dam construction was started in the Metsemotlhaba catchment area employing a mechanised unit financed by the United Kingdom Committee of the Freedom from Hunger Campaign. This made it possible to make a start on proper land use planning.

4.53. The objective is to construct some 30 storage dams annually in areas where there are good soils but inadequate water supplies, and to establish planned settlements around these dams. The initial work has been largely concerned with the collection of essential data on which a land use plan may be based. Implementation of the plan will be spread over the next three to five years. Once sufficient experience has been gained and work well advanced in the Metsemotlhaba catchment, planning will be undertaken in the Shashi/Tati catchment.

4.54. A second land use planning team will be established under the U.N. Special Fund project entitled "Surveys and Training for the Development of Water Resources and Agricultural Production" during 1968. This team will consist of a land use planner, soil scientist, irrigation specialist and rural sociologist. They will prepare a model land use plan of the Mahalapye catchment. A demonstration irrigation farm will be established by the team within the catchment area.

4.55. By means of careful land use planning it is hoped to bring about a redistribution of cattle and people in Eastern Botswana, and to achieve the objectives set out in the section above, dealing with the new Grazing Areas. It is also hoped by land use planning to effect improvements in the traditional systems of agriculture and, in particular, to encourage farmers to practice integrated farming. The land use planning unit is regarded by Government as an integral part of its extension service.

4.56. Storage dams located in arable farming areas would enable cattle and work oxen to be kept near the arable lands throughout the year. The farmer could then practise winter ploughing – an essential technique for dry land agriculture – and he could feed crop residues to his stock. The farmer would also have a better supply of natural manure to apply to his arable lands. Permanent water supplies at the arable lands would enable the farmer to live at his "lands" all the year round and practise an integrated arable and livestock system. With the farmer permanently residing at his arable lands, with his stock in the vicinity, there would be better contact with the field extension staff and other services.

4.57. Because water is of crucial importance in the daily lives of the people, a Water Act has been enacted to control the use of water. Consideration is now being given to an Agricultural Act to provide for the conservation of the soil, to prevent excessive sub-division of the land, and to improve agricultural practices. To administer this law an Agricultural Board would be established. This new law will be presented to

the Legislature during 1968. Such legislative measures are considered by Government to be essential concomitants of effective land use planning.

Research:

4.58. The success of agricultural extension work in Botswana has been partly due to the reliability of the advice offered. This has been possible because the advice has been soundly based on research carried out at the Agriculture Department's experimental stations. The extension worker knows that the farming techniques which he recommends have been proved to be successful. Research must always be ahead of current practice and problems must be investigated before they become limiting factors in the development of agriculture.

4.59. Applied research is required in particular to investigate five main problems:

- (a) The long term maintenance of fertility in dry-land farming, where progressive farmers are opening up very large areas, which may lead to serious soil erosion;
- (b) the appropriate irrigation farming techniques to be applied on the proposed irrigation schemes; so far there has been little experience with irrigation in Botswana and, since the capital cost of irrigation schemes is high, it is vitally important that the optimum techniques are used from the start;
- (c) pasture research to determine optimum veld management techniques to enable ranching to be developed on a sound basis and without destroying the grazing;
- (d) farm management studies to determine optimum farming systems in terms of economic return on capital and labour under the special conditions found in Botswana;
- (e) crop protection both in the field and in the store against pests and plant disease.

4.60. Owing to the slender resources of staff and finance available, research will be confined to practical experimentation such as assessment of possible new crops, different fertilizers and alternative methods of husbandry. Research at present is based at the new Central Research Station at Gaberones, four small dryland experimental stations and an irrigation research project associated with a pilot settlement scheme near Tonota. In 1969 it is planned to establish a research station on mopane veld, to which will be attached an area for pasture research investigations. In addition, it is intended that a programme of field trials will be started during the 1969/70 season. (See Project AD12)

4.61. Associated with pasture research is a need to conduct an ecological survey of available grazing areas. In 1966 a valuable survey of the Northern State Lands was completed, with technical assistance from the U.K. Directorate of Overseas Surveys; this identified areas of good ranching potential, and provides a sound basis for the encouragement and control of commercial ranching development. A similar survey will be conducted during 1968/69 on the remaining areas of State Land in Southern and Central Botswana. (See Projects AD24 and AD25).

4.62. To be efficacious, extension advice must be based not only on sound agronomic data, but also on a full appreciation of the economics of the relevant farming systems. To obtain reliable information on the latter, the Agriculture Department is conducting unit farm management studies. In particular, comparisons will be made of the relative returns to be obtained from oxen and tractors. A comparison is also being made of sprinkler and furrow irrigation.

4.63. The Agriculture Department's extension service is responsible for crop protection both in the field and in store. Quelea birds cause severe losses of grain; economic methods of control have yet to be devised and to solve this problem a three year research programme is to be implemented. With regard to pests infesting major crops, such as sorghum, maize, cotton and cowpeas, a programme of entomological research is to be implemented with the aid of United Kingdom research funds. A third crop protection research project is to be implemented to identify and overcome grain storage problems. This project will be financed by the U.K. Committee of Freedom from Hunger Campaign. (See Projects AD22, AD19, AD18).

4.64. Lastly, a small allocation of funds will be made for animal husbandry research. There are at the moment no facilities in Botswana to carry out experimental work in animal husbandry and this means that advice given by the extension staff cannot be based on local research work. Although much may be learnt from work carried out in neighbouring countries, it is essential to have research facilities in Botswana. It is proposed to establish two experimental herds, one in the north of the country and one in the south which will be sited adjacent to existing demonstration ranches. As a subsidiary function these herds will provide bulls for sale through the Bull Subsidy Scheme. (See Project AD14).

Chapter V—Game, Fisheries and Forestry

Game:

5.1. Botswana contains within its boundaries a great variety of game, often concentrated in large numbers in country which ranges from swamp through woodland and savannah to desert. This is an important asset but its preservation is costly. There are direct costs in the form of game wardens, transport and associated expenditure, and indirect costs arising from the need to segregate disease-carrying, free-ranging game from domestic livestock.

5.2. To some extent game and cattle compete for grazing. Although it is true that game can survive where cattle cannot, there are instances where the presence of free-ranging game animals makes an expansion of the grazing areas available for cattle more difficult. On the positive side, game are important to the economy in three main ways:

- (a) as an attraction to tourists;
- (b) as an attraction to organised hunting expeditions;
- (c) as a source of food, skins and hides.

5.3. There is thus conflict between the conservation of game and the development of the livestock industry. At present it is not possible to resolve this problem, since the necessary technical information is not available. It is not known to what extent the game are disease-carriers. It is not known how readily game are able to adapt to the presence of disease control fences, nor is it known how these fences have upset the ecological balance of the country. It is evident that the game cause damage to the disease control fences and, at the same time, the movement and number of animals are being limited by the presence of the fences. The Government intends to carry out new research to obtain scientific evidence upon which a sound policy may be based.

5.4. The viewing of game in its natural habitat is becoming increasingly attractive. The

number of places where this may be done is rapidly becoming fewer. Botswana is well placed in this respect to attract tourists. In particular, the Chobe National Park is in a good position to attract those visiting the Victoria Falls.

5.5. In 1965, some sixty-thousand tourists visited the Victoria Falls. If Botswana could induce half of these to spend a day in the Chobe Game Reserve and spend, say, R10, the total tourist expenditures would amount to over R250,000. While it is true that a major part of this expenditure would be on imports, the money spent on local services and taxes would contribute significantly to the economy.

5.6. The Safari Industry started in 1961 is now firmly established with the hunting safari companies catering annually for about 100 clients and having a turnover of nearly R500,000. Game licences bring in a further R100,000 annually; and the game trophy business is rapidly being established and already exports about R200,000 worth of trophies. Photographic safari companies are establishing themselves and will soon be able to offer tours to all centres of tourist interest.

5.7. In addition to these benefits, it is important to remember that game provides a source of food for a part of the population, which is particularly valuable in times of drought. It has been estimated by F.A.O. that the use of game meat permits the export of R1.8 million worth of beef. It is, however, difficult to estimate the amount of meat consumed in this way, and even more difficult to put a proper valuation on it. It is obvious that game has a significant value in this respect and the Government intends to carry out a survey to determine this value.

5.8. Mention must also be made of the growing importance of game industries. Hides and skins have long provided a small source of income to rural families. The systematic organisation of the processing of hides and skins to create a modern industry is now being undertaken; thereby greatly increasing its economic significance. Export duties on game hides and skins and trophies now amount to some R40,000 per annum.

5.9. Wildlife is a sensitive natural resource, the administration and management of which becomes ever more difficult as development spreads throughout the country. Formerly wild populations were protected naturally by the inaccessible nature of much of the country and by restrictions imposed on pastoral human settlements by the availability of surface water and the presence of tsetse fly. Modern innovations enable the human population to double every twenty years and to spread its activities, upsetting the balance that had evolved between traditional cultures, wildlife and essential wildlife habitats.

5.10. In recognising the importance of wildlife, the Botswana Government has set aside almost 30,000 square miles as conservation areas including the 4,500 square mile Chobe Game Reserve. This Reserve was elevated to National Park status early in 1968 by new legislation and probably provides a wider spectrum of large mammals than any sanctuary in the world. It contains woodland, savannah, an attractive ancient lake bed and the swamp and flood-plain grassland along the Chobe river. Other reserves include vast pans, and areas of desert and swamp. Plans are in hand to have National Parks protecting adequate samples of all important biological associations as well as areas of natural beauty or of historical significance. These sanctuaries are to serve a dual role as tourist attractions, for both the people of Botswana and international visitors, and as reservoirs of wildlife for controlled utilisation. (See Project GA.02).

5.11. Special mention should be made of the Moremi Wildlife Reserve and the Gemsbok National Park. The Moremi Reserve, established on the initiative of the Batawana tribe, is situated on the edge of the Okavango Swamp. It has the most spectacular concentration of game in Botswana in the winter months. The Gemsbok Park lies in the south-western portion of Botswana and forms part of a large unit, stretching into South Africa. It contains large numbers of desert game, most notably the famous *Southern Oryx*.

5.12. It is considered that research leading to proper management is an essential ingredient

to the wise administration of wildlife, both inside and outside the National Parks. In order to maintain a healthy country, to provide the animals with their essential needs and to provide the basic data for their more efficient utilisation on a long-term basis, such research is essential. Surveys and management within the capabilities of the Department of Wildlife and National Parks continue in as many areas as possible, and a project is planned for the Kalahari sandveld including sectors of the Central Kalahari Game Reserve to examine the introduction of extensive commercial wildlife utilisation on a sustained basis within the framework of local culture. The project will determine on a scientific basis the maximum permissible exploitation of species native to the very delicate habits without endangering the essential conservation values upon which the economy of the area is inevitably dependent. The object is to investigate the permissible off-take of wild populations, to find ways in which these may be raised by conservation techniques and to devise methods of harvesting, processing and marketing.

5.13. For all the reasons given above the Government is concerned to preserve its great heritage of wildlife. It is recognised that it is essential to service this valuable renewable resource properly. The Department of Wildlife and National Parks will continue to be expanded to meet the increasing obligations for better administration, management and control of the whole wildlife industry. Botswana itself, however, does not have the adequate resources for this task. It is therefore dependent for funds on both governmental and private bodies throughout the world interested in the preservation of game. A Southern African Wildlife Foundation, a branch of the World Wildlife Fund (International), has recently been formed. It is intended that funds from this Foundation will be channelled to Wildlife Conservation projects in all countries in Southern Africa, including Botswana.

Fisheries:

5.14. Most of Botswana is arid but there is a large, well-watered area in the north-west with a good fisheries potential. The Okavango River, which splits into numerous rivers after it enters

Botswana from Angola, forms a delta of approximately 6,500 square miles, of which approximately 2,000 square miles are permanently flooded. A survey of this area and also of the Chobe River area in the north of Botswana, was carried out with OXFAM finance in 1963 and 1964 and it is estimated that the potential offtake is approximately 25 million pounds of fish per year.

5.15. OXFAM has provided further funds to set up a Fisheries Extension Unit. The Unit is based at Maun on the south-east side of the Okavango Delta and consists of the Fisheries Officer, five Fisheries Assistants and five Home Economic Assistants. The unit is faced with three problems. First, there is no tradition of catching fish in Botswana except on a subsistence basis and therefore the local people have to be taught how to fish with nets and with lines. The second problem is the great distance separating the most productive areas, i.e. Lake Ngami and the Okavango, from potential markets in the east. Thirdly, there is no strong local tradition of eating fish.

5.16. Slow but steady progress is being made in encouraging local people to fish; with assistance from the Unit, fishing groups are being formed. At present they are borrowing Government equipment but, as they amass the necessary capital, they will buy their own equipment which will be sold to them at cost by the Fisheries Officer. They will also be able to obtain loans through the National Development Bank.

5.17. The internal market in Ngamiland is low because of the sparse population. At present there is no adequate means of transport to enable fresh fish to be exported to markets in the east. The Fisheries Officer is therefore building drying sheds and is teaching the local fishermen how to dry fish under simple but hygienic conditions. The dried fish will be exported to markets in eastern Botswana. It is anticipated that when a market becomes established the fishermen may form a marketing co-operative.

5.18. Any expansion of the fishing industry depends to a great extent on establishing a

local market, as neighbouring countries are well supplied with fish. Home Economic Assistants will travel around the main centres of population, demonstrating methods of cooking fish. The first tour of these assistants to three centres in eastern Botswana resulted in the sale of 1,400-lbs. of dried fish to traders. With the growth of industrial towns in the east, associated with mineral exploitation, it is expected that the demand for dried fish, which is relatively cheap when compared with meat, will rise.

5.19. The possibility of stocking and fishing the dams which have been established at Gaborones, Notwani and Nuane, and other dams which will be constructed in the future will be studied. Although fishing on these dams could never become a large industry, it could provide recreation for some, a modest income for others and a welcome source of fresh fish in towns such as Gaborones, Lobatsi and Francistown.

Forestry:

5.20. Although the forest resources of Botswana are not extensive, the Government recognises that there are, nevertheless, persuasive conservation arguments for measures to be taken to preserve and augment those which do exist. A Forest Act has been recently enacted to provide for the creation of forest reserves, and for the protection of the Forest Estate. Under this legislation, regulations may be made to control the exploitation of timber within a reserve or in natural woodland.

5.21. The main natural forest resources of the country are to be found in the Chobe District which is in the north. An assessment of these resources was made in 1935-38 and resulted in a timber concession operating during the period 1945-55. A similar assessment of the northern areas of the Chobe District was carried out during 1963-66. As a result, a timber concession to cover the exploitation of some 7,500,000 cubic feet of timber at the rate of 500,000 cubic feet per annum is being offered. If the concession is taken up then a timber industry employing up to 300 persons within the Chobe District could be maintained. Direct annual revenue of R17,000 is expected to accrue to Government from this project.

5.22. Demarcation of production forest reserves will be continued during the Plan period in the Chobe District, where it is envisaged there will be four main areas covering approximately 1,000 square miles, mainly in *Baikiaea* and *Pterocarpus* woodland. Also during the Plan period, a start will be made on the demarcation of protection forest reserves in the southern part of the country. These will be mainly on watersheds and in areas where the reserves are necessary as a buffer against desert encroachment. Assessment of other natural timber resources will also be undertaken. This will be particularly necessary in the areas where new mining townships are expected to be established to determine the availability of mining timber.

5.23. Suitable poles for house building are generally in short supply, whilst wood fuel is also scarce near some of the larger population centres. The establishment of small plantations on suitable sites can meet these needs and a start has already been made with the planting of 44 acres at five sites in 1967; a further 100 acres will be planted in 1968. This work will be continued during the Plan period. Re-afforestation, however, under conditions of low rainfall, high seasonal temperatures and occasional frosts, is costly and must therefore be limited.

5.24. At present, almost all fence posts used in agriculture and veterinary development are imported. These are either metal posts or treated wooden poles. A large part of these requirements could be met from poles grown in Botswana at competitive prices. A pilot creosote impregnation plant is being erected for the treatment of such poles.

5.25. The possibilities of timber-growing on a commercial basis are limited in southern Botswana because of the adverse climatic conditions. Given suitable sites, plantations of poplar, grown for timber used in match production, are possible as shown by a pilot project at Mogobane. The country has a much higher rainfall in the north where trial plots are being established on Kalahari sands and on alluvial flats. These trials will be combined with the growing of a cash crop to cover the cost of clearing the sites in the first year. If this can be successfully accomplished, considerable plantation development, with a view to the production of fencing posts, mining timber, lumber or even pulp, is possible. Poplar production on the alluvial flats is also possible on a relatively large scale and will be further studied.

Chapter VI—Industry and Commerce

General:

6.1. Botswana is in a very early stage of industrial development. The lack of known natural resources, poorly developed infrastructure and low income levels have combined in the past to impede investment in industry and commerce. Apart from a large abattoir and meat cannery, industrial enterprises are few and small. The industries that do exist are mostly located in the three modern townships — Lobatsi, Gaborone and Francistown.

6.2. The capital, Gaborone, being new has few industries as yet. So far, a brewery and a small tannery and leather factory have been established. At Lobatsi, in addition to the Botswana Meat Commission, there are a maize meal and malt mill, and two small textile concerns. In Francistown, there is a bonemeal factory and a thriving game trophy and curio industry. At Kanye a highly successful furniture factory is in operation. The construction industry is of major importance throughout the country, benefiting greatly in recent years by Government's heavy investment in housing and administrative buildings.

6.3. Since Independence, the Botswana Government has striven to promote industrial development. The Government recognises that it is essential to attract foreign capital investment to Botswana, and that this must be achieved by the provision of essential infrastructure, by the creation of new credit facilities, and by the encouragement of private investors through legislation designed to provide full security against expropriation, fiscal incentives and orderly development. The success of these policies is now being seen. A high level of interest is being shown by new investors which indicates that there will be a marked increase in the number of manufacturing establishments during the Plan period.

Botswana Meat Commission:

6.4. From Botswana's trade figures it is evident that livestock constitutes the country's

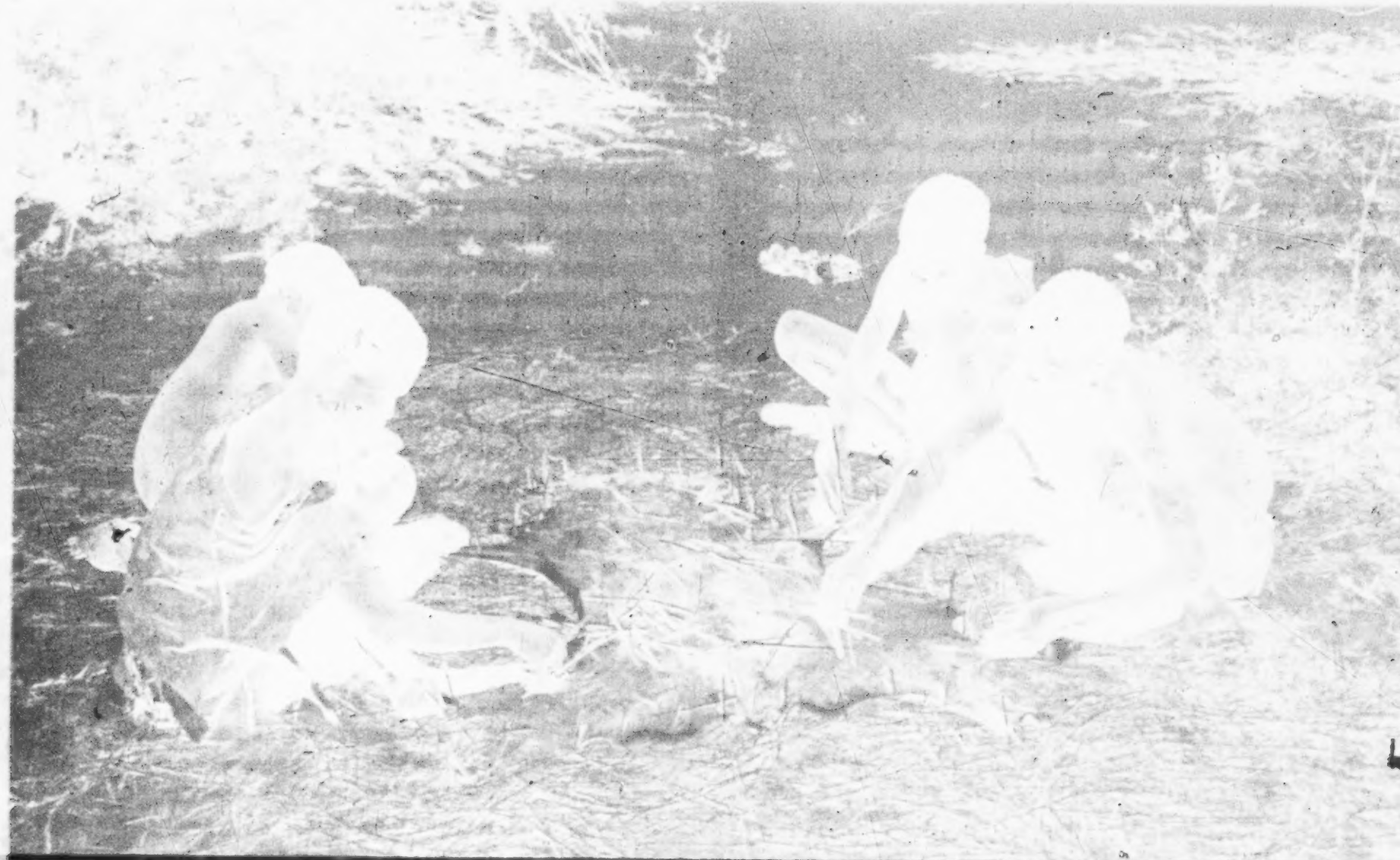
major industry. The slaughter of all cattle for export and the processing of the carcasses is handled by a statutory corporation — the Botswana Meat Commission (BMC). Including the cannery, BMC's capital investment exceeds R3.5m, making it the largest single beef processing concern in Africa. It is also one of the most modern.

6.5. During 1966, 132,232 animals were slaughtered by BMC. This number declined to 88,535 in 1967 because, with good rains after five years of drought, the grazing recovered sufficiently to enable stockowners to start rebuilding their herds. The abattoir has the capacity to process up to 1,500 head daily, which is sufficient to enable it to handle an annual throughput of 200,000. This is the long-term objective for the cattle industry. The labour force varies from 700 to 1,000 workers, depending on production levels. Throughput varies seasonally, related to the changing condition of the of the grazing. To even out supplies to the abattoir, holding grounds will be developed and farmers encouraged, through a differential price structure, to market in off-season periods. If this can be achieved, the efficiency of the abattoir may be increased and better prices paid to producers.

6.6. The main export from the abattoir is boneless beef, which is blast frozen to -20°F . The major markets have been the United Kingdom, South Africa, Zambia, Malawi, and Mauritius, and efforts will be made to secure additional markets. In addition, the BMC has extensive canning facilities. Under the terms of an agreement with Liebig's Extract of Meat Co., Ltd., the largest distributor of corned beef in the U.K., Liebig's purchases all of the BMC's export production of canned corned beef which is marketed under the trade name of "Fray Bentos".

6.7. The BMC has recently expanded its facilities by the addition of a 2,500 Kw turbo-generator and a continuous rendering by-products plant. Plans are now being completed for the addition of 1,200 tons of refrigerated storage

*Bushmen drying skin in the Kalahari.
Botswana Meat Commission.*



capacity which will be increased to a total of 4,000 tons by the early 1970s. Also, the BMC will give consideration to the introduction (during the Plan period) of a form of Grazier Scheme to improve the immature cattle that are presently being sold for slaughter.

A Policy for Industrial Development:

6.8. The lack of industrial development during the colonial period may be mainly attributed to the following factors:

- (i) potential investors had very little knowledge of Botswana; it was widely believed that the country was a desert with few resources; the market potential was thought of in terms of its own small population and low level of income;
- (ii) the existence of a Southern African Customs Union permitted the free flow of manufactured goods from South Africa into Botswana, thereby ruling out normal infant industry protection policies to encourage manufacturers geared to supply the local market;
- (iii) adequate basic physical infrastructure was not created;
- (iv) special credit institutions were not established to promote development;
- (v) trained manpower was not available because educational and technical training facilities were so poorly developed.

6.9. The Government is convinced that all these obstacles can be overcome. Moreover, there are certain aspects of the Southern African investment scene which make Botswana particularly attractive. Through her membership in the Southern Africa Customs Union and through her Trade Agreement with Rhodesia, Botswana alone has free access to the richest single market in Africa. In addition, because of Botswana's friendly relations with countries north of the Zambezi, manufacturers in Botswana can sell their products without suffering discrimination in East, Central, and West Africa. Coupled with

these factors is Botswana's record for moderation and political stability and Government's clearly stated commitment to private enterprise. Tax rates are relatively low, fiscal incentives for new investment generous, and there are double taxation arrangements in force with both South Africa and the United Kingdom.

6.10. The Government is fully aware of the difficulty and high costs of establishing a pioneer industry and realises the need for protection. Accordingly under the terms of the Industrial Development Act, pioneer industries may apply to the Government for protection against any new business producing similar products in Botswana. In addition, the Government intends to re-negotiate the Customs Union with South Africa with a view to making provision for the protection of infant industries. While there are obvious advantages in having a Customs Union, it is also clear that unless the smaller and poorer countries are permitted to grant protection, industry will not be able to develop because of the tough competition from the larger, established enterprises in the more advanced country. Whilst it feels that such fears are unwarranted, the Government is aware of the continuing desire of foreign investors to have additional guarantees against expropriation, nationalisation and political upheavals. To this end Investment Guarantee Agreements are being sought with foreign governments. One such agreement with the United States of America is already in effect and it is the Government's intention to enter into similar agreements with as many countries as possible.

6.11. Industry can only develop if adequate physical infrastructure facilities are provided. Properly laid out industrial areas have been planned for Francistown and Gaborone, with rail and road access, where power and water supplies are available. Industrial development at Lobatsi is restricted by the scarcity of cheap water. It is therefore desirable that only the meat industry should have priority there.

6.12. Implicit in the plans and policies of the Government is a belief in the capacity of this country to absorb capital investment effectively.

To this end, the tax policy is aimed at encouraging foreign investors to establish themselves in Botswana. The present company tax rate of 30% is more favourable than rates generally prevailing in neighbouring countries and to this must be added liberal deductions for capital investment; these are:

- (i) a new machinery initial allowance of 20%;
- (ii) an industrial building initial allowance of 10%;
- (iii) a further allowance to be known as the new machinery allowance of 25%.

6.13. Whilst Botswana must rely on outside capital for the financing of industrial development, this need not necessarily be provided through direct investment. Many of the entrepreneurs interested in Botswana, both local and foreign, lack sufficient capital. There is therefore a need for an effective financial institution, capable of raising foreign capital from both Governmental and private sources, to be used to provide private enterprise with credit. The Government intends the National Development Bank (NDB) to have this role. Provision is made in the Plan for a steadily increasing supply of commercial and industrial credit to be injected into the economy by the NDB.

6.14. There is an additional need beyond making available adequate credit if development is to take place rapidly. There is insufficient entrepreneurial talent at present in Botswana to exploit all the opportunities which exist. For this reason, Government intends to establish a Botswana Development Corporation, the function of which will be to interest investors in specific projects and assist in their implementation. The Corporation will manage Government investments and interests in industry and commerce, promote indigenous industrial and commercial entrepreneurship, issue loans to private enterprise on reasonable commercial terms and appraise projects which Government wishes to establish either itself or in partnership with private enterprise on an equity share basis.

6.15. The final impediment to industrial development noted above is the lack of trained manpower to meet the needs of industrial and commercial investors. Besides the crash expansion of secondary and higher education to fill this gap, it is the Government's intention to expand the output of the Botswana Training Centre - which provides training in technical, clerical and artisan skills. While the Government will insist on the employment of citizens of Botswana, wherever fully qualified candidates are available, it is also realised that the people must have sufficient skills before they can expect to be employed at higher levels. During the Plan period, the Government will expand the output of the Botswana Training Centre and increase the scope of its curriculum. (See Project LS.02).

Potential for Industrial Development:

6.16. Because her manufacturers have access to the largest and richest market in Africa, because of her geographical position - lying between South Africa and the countries to the north and astride the only north-south rail link - because of her favourable tax arrangements and her encouragement of private enterprise, and because of her unrestricted labour policies, Botswana is ideally suited for the location of light industry, especially if it is labour intensive.

6.17. In addition to her access to foreign markets, Botswana herself provides a substantial market for certain consumer goods. Trade statistics show imports of more than R1,000,000 in each of the following categories:

- processed foods
- soft drinks and beer;
- clothing and textiles;
- building materials and fabrications.

It is considered that the domestic market for the items included on the above list all offer realistic opportunities for import substitution. Furthermore, it may be seen from the trade statistics that there are many products imported in significant amounts which, when coupled with duty-free access to a larger market, provide attractive opportunities for local or foreign investors.

6.18. There are also many opportunities deriving from the present raw materials of Botswana. The most obvious is leather and related products including boots and shoes. There is only one tannery which produces sole leather and absorbs only a small portion of the abattoir's output of leather, the rest being exported. A second obvious area for industrial expansion based on local produce is the game skins, trophies and curios business. There is one firm engaged in this field already and it appears that others could profitably invest here. Finally, with the advent of the mining industries in Botswana (see Chapter VII) it is anticipated that many link industries may be successfully established; this will provide the nucleus of a growing industrial area.

6.19. Handicraft and cottage industries are still in an early stage of development in Botswana. Craftsmen may be found with little or no formal training producing wood carvings, furniture, toys, curios, game-skin mats and karosses, woven rugs, reed mats, baskets, straw hats, pottery, bead work, metal work and leather work. At present, marketing of these products is haphazard and production poorly planned. A small start has been made to develop these handicraft industries at Serowe by the Serowe Youth Development Association, at Francistown by the Community Development Department and at Mochudi by the Bakgatla Development Association. During the Plan period those efforts will be intensified. To assist in the training, organisation and marketing aspects, a small-scale industries expert will be recruited. There is no doubt that, properly planned, the production of high quality handicrafts could provide considerable income for the rural sector.

Commerce and Distribution:

6.20. There were 1,054 commercial establishments licensed in 1967 representing a 10% increase over the preceding year. The largest number of these were licensed as general dealers. With the increased pace of development, it is expected there will be a significant expansion in the service industries such as dry cleaning, garages, etc. This expansion is already being

witnessed in Gaberones, Francistown and Lobatse. It is Government's policy to encourage increasing specialisation among traders, thereby improving the service to consumers.

6.21. The economic development of Botswana anticipated in the next few years will provide numerous opportunities for new service industries such as hotels, restaurants, dry cleaners and repair shops. There is an immediate need for additional hotel accommodation in the main centres and both Gaberones and Francistown lack men's hairdressers, adequate repair shops and similar services. These developments will be encouraged during the Plan period by the provision of generous credit through the National Development Bank.

6.22. There are transport companies operating between most of the larger towns and villages and the Rhodesia Railway running from Bulawayo to Mafeking crosses the entire populous eastern region of the country. The improvements in the road network, such as the bitumenising of the Lobatse-Gaberones road, proposed in this Plan will greatly assist trade.

Tourism:

6.23. Six years ago, Botswana was unknown to the tourist world except as a vast desert area on the map, completely lacking anything to interest the visitor. This was a very false picture; the country has much to offer the tourist, although facilities are still limited. The Kalahari with its pans and great sweeps of grassland, its huge herds of game and its Bushmen, has been opened up during the last five years. Even the remoter areas are accessible to the adventurer prepared to travel by truck and sleep under canvas. The Chobe district, which is easily reached from Victoria Falls, has an exceptional variety of wild animals, to be viewed either from a vehicle or from a boat on the river; its riverine stretches are a great scenic attraction and are also of much interest to fishermen. Other features of note are the Okavango Swamps, teeming with game and fish; huge ancient lake-beds, such as the Makarikari Pans and Lake Ngami, often covered by thousands of pink

*Bushmen drying skin in the Kalahari
Botswana Meat Commission.*

flamingo and pelicans; the rock paintings in the Tsodilo Hills; the ruins of famous mission stations founded by Livingstone and Moffat; the trails of the early hunters such as Anderssen, Baines, Selous and many others. The Batswana live in remarkable traditional villages, some of which are the largest in Africa. The eastern side of the country is studded with relics of the Rhodesian pioneers and the Boer War, and ruins of cultures allied to that attributed to Zimbabwe and Mapungubwe.

6.24. The Government plans to develop tourism in Botswana and to protect and conserve the great wildlife heritage the country contains. Already nearly 30,000 square miles have been set aside as wildlife sanctuaries and the 4,500 square mile Chobe Game Reserve has been elevated to National Park status. But setting aside areas for protecting wildlife does not in itself make for tourism. Much work needs to be done to improve access to these areas and tourist facilities within them. As explained in Chapter V, Government proposes to develop more National Parks with good accommodation and other necessary tourist facilities. Roads, petrol points, car-hire services, recreational facilities and accommodation must be developed outside the proposed parks so that Botswana can be thrown open to international tourism. Already safari companies are established catering for the hunter and photographer.

6.25. The Government's policy is to encourage private enterprise to set up tourist facilities. Tenders have already been sought to establish high class accommodation throughout the Chobe National Park. Communications into Botswana from surrounding countries and overseas are being improved with Botswana National Airways offering direct flights from Zambia, Rhodesia and South Africa and providing an air network between the country's major centres. The railway running along the eastern side of the country links Botswana to Cape Town, Salisbury and Lusaka and new entry points by road have been built, suitable for saloon cars.

Co-operative Development:

6.26. The Co-operative movement in Botswana is still in the early stages of development.

Legislation was enacted in 1962 and the first Registrar of Co-operative Societies was appointed in 1964. By early 1968, 54 Societies had been registered as follows:

Agricultural marketing	20
Consumer	10
Thrift and Loan	21
Co-operative Union (wholesale supply)	1
Others	2
	54

This is an encouraging start to the growth of the Movement. The immediate goal is to consolidate the progress achieved so far within the framework already established, while at the same time maintaining a rate of growth that can be supported by the available manpower and facilities for co-operative education.

6.27. The Co-operative Movement is seen by Government as an essential means of enabling the mass of the people to participate in the economic development of Botswana and of encouraging the transition of a predominantly subsistence economy into a cash economy. As a stimulus to agricultural production it offers the opportunity of competitive marketing and the best possible return for higher productivity resulting from the use of improved farming techniques. It provides a vehicle for the creation and re-investment of trading surpluses and the mobilisation of small savings to the benefit of the individual, the local community and the national economy. The Movement is an agent for social change and modernisation in rural areas and an excellent training ground for democratic procedures and the development of social responsibilities.

6.28. The financial needs for the capital development of co-operative societies are met through the Co-operative Development Trust, set up in 1965 as a non-Government agency to administer funds obtained from overseas made for specific co-operative projects. Credit has been provided by the Trust on a loan basis to societies and this will remain the policy of the Trust. In the future, the Movement will also be encouraged and expected to raise finance for

capital development from its own resources. To this end, an important function of the Trust is to receive savings and surpluses generated by the operations of societies and deploy them for further co-operative development. Government regards this as a sound and equitable method for the Movement to build up its own capital. It welcomes the continuation of the role played by the Trust in this field.

6.29. The Government is convinced of the many possibilities for co-operation in a variety of fields of economic life and of the high educational value of co-operative solutions. It is its intention therefore, to promote such solutions by an intensification of co-operative training and education and by building up the facilities required for this. Government, through the Department of Co-operative Development, will ensure that the widest publicity is given throughout Botswana to the potential and the principles of co-operatives while leaving the initiative for the formation of individual societies to come from the individual groups. Such initiative will be followed up by the Department with all the necessary advice and instruction leading to registration as a co-operative society wherever one is economically justified.

6.30. Several specific fields for co-operative development have been identified. In the predominantly agricultural economy of Botswana it is obviously important that the primary producers should receive the highest possible returns for their produce. Priority will therefore be given to the promotion of agricultural marketing societies handling both livestock and crops. One great need in the marketing of crops is the acceptance and maintenance of recognised grading standards, and a start has already been made in demonstrating these standards and getting societies to apply them and abide by them. Further advice and instruction in this field is necessary and will be made available. Societies that concentrate on livestock marketing will, it is expected, establish their own holding grounds, as they build up their own capital, experience and confidence; these will be used for finishing out cattle before marketing, thus improving weight and grade. There is consider-

able potential in such development and technical advice and instruction will be asked from the Departments concerned to assist societies in carrying it out.

6.31. With the steady expansion of the Pupil Farmers and Pupil Stockmen Schemes, the use of improved techniques of crop and animal husbandry will spread and with it a higher cash input into farming operations in the form of implements, fertilizers, improved seed, animal feeds, fencing, boreholes, etc. Agricultural credit for these purposes is at present provided by the National Development Bank and under the Agricultural Charges Act, 1967, the Bank is able to nominate co-operative societies as buyers through whom borrowers' produce must be sold and repayment of loans made to the Bank.

6.32. The mobilisation of local savings is of great importance for Botswana; one method is through the agency of co-operative Thrift and Loan Societies. Through such Societies locally generated savings can be put to work at the local level in the form of loans for provident or productive purposes to individual members and at the national level through investment in the Co-operative Development Trust for on-lending to other Co-operative Societies for capital development or short-term crop financing. A study will be made of the many aspects and problems of loan financing in Botswana's social and economic situation with a view to encouraging more productive investment of savings and thereby to stimulate savings at a much higher level.

6.33. Another obvious co-operative solution is in the field of housing. With the steady rise in the general standard of living it can be expected that one of the first and most basic needs to be satisfied will be for better housing in both urban and rural centres. Housing also represents a sound investment for people's savings; a survey of the potential for housing co-operatives will be made with a view to encouraging their formation linked to finance from Thrift and Loan societies.

6.34. Consumer Societies have been formed in centres where retail trading stores are in-

adequate to serve consumer needs and where competition is lacking. These societies are supported by the Botswana Co-operative Union which acts as a wholesale supply organisation for member societies. If the societies are to remain efficient and competitive and are to improve their services, the Union must do likewise and it is intended therefore to strengthen considerably the organisation and staffing of the Union, so as to extend its services and improve its efficiency to the benefit of both present and future members.

6.35. One further field in which co-operation is needed is that of handicrafts. Efforts must be made to improve standards of workmanship and quality of materials and in opening up internal and external markets. Expert assistance will be sought in this field (as described in paragraph 6.18.) to develop the existing potential through proper training and the creation of a suitable market structure.

6.36. The two main factors that will dictate the rate of growth of the Co-operative Movement and of individual societies are: (a) the great

shortage of trained persons able to run societies' affairs, and (b) the extent of available facilities in which to train society officials and members and Government Co-operative officers. At present, officers and suitable society officials are sent on courses offered in Lesotho, Tanzania, Canada and England, while, internally, courses are run in conjunction with the Botswana Training Centre, and an Education Team has been set up within the Department of Co-operative Development to run courses for societies in the field. The great need still remains, however, and indeed will increase for more local facilities for training and, to meet it, there is included in this Plan a project for the establishment of a Co-operative Development Centre using facilities at the Rural Training Centre, Gaborone. It is intended that the Centre will offer all the training and educational facilities required by the Movement as it develops in different fields and will conduct a programme of study and research into the local needs and problems facing the Co-operative Movement covering all facets of its activities from accounting systems to advice on capital development and legal questions.

Chapter VII—Shashi Complex

7.1. Mineral exploration work by prospecting companies has revealed that there are good possibilities of developing mining operations for copper at Matsitama, for copper/nickel at Selibe/Phikwe, for diamonds at Letlhakane and for coal near Palapye.

7.2. The exploratory process has not yet reached a stage when any final statements can be made as to the viability of the projects at Selibe/Phikwe and Matsitama. However exploratory work by Bamangwato Concessions Ltd. has revealed that deposits in these areas contain some 29 million tons of proven and probable copper/nickel material and some 6 million tons of proven and probable copper sulphide material. A pilot plant has been constructed at Shashi for the purpose of carrying out beneficiation and general metallurgical tests on ore samples obtained from these deposits. Meanwhile further feasibility studies are continuing and there is optimism that these will reveal that mining can be established on a scale that will make a dramatic impact on Botswana's economy, provided that the initial capital for establishing the mines and supplying power, water and improved communications can be raised internationally.

7.3. The De Beers Prospecting Company Botswana (Pty.) Ltd. is pursuing an intensive exploratory prospecting programme for diamonds at Letlhakane with vigour and it is expected that this work will be completed by the end of 1968. It is hoped that the information obtained will be sufficiently encouraging to warrant a detailed study.

7.4. The Anglo American Corporation has investigated the feasibility of working the Morupule Coalfield near Palapye with a view to supplying power to serve the prospective mining areas. Reports in this connection have recently been handed to government.

7.5. Makarikari Soda Ltd., another subsidiary of Botswana R.S.T. Ltd., is also investigating the possibility of the production of salt, soda ash and sodium sulphate from brines in the Makarikari region west of Francistown. Should it prove possible to develop markets in Southern Africa

for these products, production could easily be 60,000 tons of soda ash and 140,000 tons of salt a year.

7.6. Meanwhile, a team of consultants is now studying the most economical manner of providing the necessary power, water and transportation facilities to support an economically viable development of mining at Selibe/Phikwe and Matsitama. The costs of financing this survey are being borne by the UNDP (Special Fund) and by the Government. The IBRD is acting as executing agency for the project. A final report on the results of the survey is expected towards the end of 1968. Thereafter the capital necessary to provide the optimum system of infrastructure will have to be sought. This Pre-Investment Survey is mainly concerned with infrastructural facilities relating to discoveries at Selibe/Phikwe and Matsitama. As far as Letlhakane is concerned the De Beers prospecting company is itself investigating the needs for power, water and transportation facilities.

7.7. An important basic requirement for the creation of infrastructural facilities will be the provision of adequate water supplies for a power station, for coal, diamond, copper and copper/nickel mining and for construction work and domestic township supplies. Preliminary estimates indicate that between 10m and 11m g.p.d. will be required to meet these needs. The Survey Team is investigating the possibilities of storing water by damming those rivers which flow within or near the areas concerned, and of piping supplies to the required sites. Present indications are that one or perhaps two dams on the Shashi River may be required and probable sites are being investigated. Other possible dam sites on the Motloutswa, Lotsane, Mosetse, Matsitama and Tati Rivers are also being considered as are several alternative pipelines and pumping systems from such sites to the projected mining areas.

7.8. Where power is concerned the survey team is considering the feasibility of producing power locally as compared with importing power. Abundant coal reserves of variable

quality have been found at Morupule and Mambule and the possibility of a pit head power station at Morupule, near Palapye, is being considered. One of the possible difficulties of such a project is the apparent lack of a suitable water supply at Palapye. This factor may determine a need to move coal to a power plant situated nearer to an adequate water supply or to pipe water to the coalfield from another area.

7.9. The probable transport communication links being considered involve both road and rail construction, at present it appears that road routes will be necessary between Shashi and Selibe/Phikwe and Matsitama, and Shashi (or Serowe) and Letlhakane. The need for a rail link between Seruli and Selibe/Phikwe is also under consideration.

7.10. The success therefore of the whole project of exploiting the resources in the areas concerned depends upon the infrastructure feasibility studies now under way, successful viability studies by the prospecting companies and the raising of capital for the construction of infrastructural facilities, mining plant and the necessary accommodation and social service facilities to enable mining to take place. These prerequisites to development will involve the Government and the companies concerned in a considerable amount of detailed planning, exploratory work and expense, and indeed, considerable sums of money have already been devoted to this purpose.

7.11. The Government, early in 1968, set up a new unit in the Ministry of Development Planning for the purpose of ensuring that future action related to the project as a whole is undertaken by all Ministries on a co-ordinated basis. In this way it is hoped that the planning, fund-raising and construction work necessary to exploit any resources, which may be proved, will be undertaken as rapidly as is practicable and in a manner which will maximise any benefits to the nation's economy which may flow from these developments.

7.12. While much of the planning, at this stage, can only be of a tentative nature, since several important aspects remain to be clarified, it is obviously necessary to proceed as far as is

practicable on the assumption that development will take place. On this basis the Government will have to consider ways and means for the provision of water, power, communications, land, housing, social services and security for the communities engaged and dependent upon mining operations at Letlhakane, Matsitama and Selibe/Phikwe and probably also at Morupule where coal deposits may be mined and used to provide power. Since all these areas, with the exception of Morupule, which is near the town of Palapye, are situated at considerable distances from any existing towns, villages, or services, new townships or settlements will have to be located, mapped, planned and surveyed before any construction work could begin. Furthermore, all the normal services, including production of power, water, roads, will have to be provided for these areas since none exist at present.

7.13. It is essential for planning and costing purposes to estimate possible initial populations at each area. In the absence of any firm figures at this stage, it is estimated that facilities will be required for a township of 1,000 residential plots at Letlhakane, 800 at Matsitama and 2,500 at Selibe/Phikwe. These figures can only be regarded as rough estimates and will doubtless change as viability studies proceed during 1968 and into 1969. However, planning must proceed now so that there will be the minimum delays once a decision is taken to commence mining.

7.14. Present indications are that at least a further three to four years are required for exploration, underground development, detailed planning and construction before production begins, should viability studies prove satisfactory and sufficient finance for the mining ventures and the infrastructure be obtained. This means, in effect, that if production is to begin at the earliest possible opportunity, there are now only some three and a half years in which to plan, finance and create at least three modern townships and to provide water, power and transport facilities for three or four probable mining operations, including coal mining, in fairly remote and isolated parts of Botswana.

7.15. Over this intervening period, therefore, and assuming a favourable outcome to current

investigations, the government has, in addition to its existing commitments, to consider the expansion of its services to supervise the planning, financing, construction and administration of new water supplies, new power supplies, new communication networks and at least three new townships. This exercise will involve every department of government; each department will have to estimate the impact of these possible developments upon its existing resources in respect of plant, finance and manpower. This work has yet to be undertaken and the needs which are set out in this Plan do not therefore fully take account of the impact of possible mining developments within the Shashi Complex, nor could they do so on any realistic basis at this stage.

7.16. An important aspect of planning this development is the timing of the various stages to ensure that the necessary services are available when required in any particular area. Personnel, plant, accommodation, power and water will be required during the construction stages and, since construction will have to take place in isolated regions of the country, careful planning is necessary to ensure that supplies of material are available, that labour is adequately catered for in regard to health, housing and food supplies and that supervisory personnel are available to inspect the standards, both social and technical, of the undertakings. While the ultimate goal will be the production of minerals for the benefit of the country's economy it will be essential to ensure that the means of achievement are also such that conditions of employment and employment opportunities are geared to the maximum benefit of the country's labour force. This means that the Government and all the other parties engaged in any undertakings connected with the project will have to undertake continuous and concerted training programmes for local workers compatible with the economics and viability of the project. Inevitably, since the country now lacks high and middle level trained manpower and is still reliant upon imported skills, the process of training manpower for the construction, operation and administration of these developments will be a lengthy and costly procedure. It will be necessary to increase the facilities at the Training Centre in Gaborone to provide for expanded and more diversified

courses of technical and artisan training and funds for such expansion will have to be sought from international or bi-lateral sources although the Government will also look to employers to play their part in any training programme designed to benefit their own undertakings.

7.17. Another significant aspect of any possible mining development will be the need to regulate the standards of living in the new townships. For perhaps the vast majority of workers in these areas a totally urban life will present a departure from former rural conditions where the need for more permanent forms of buildings, water, sanitation, power, communications and land tenures has been less apparent. Population concentration which may result from any new developments must be protected against social and health hazards which do not arise to the same extent in rural areas. The provision of suitable housing and sanitation for workers of all kinds in the new townships is considered to be one of the most important features of these possible developments. The system of land tenure and the conditions of employment must be designed to prevent the growth of "shanty towns" and their consequent social evils. For this reason, the Government will insist upon the provision of suitable accommodation for all types of workers and their families in these new townships and will, in consultation with the local authorities concerned, take any steps necessary to prevent the unauthorised growth of settlements adjacent to the townships themselves. Similarly, the erection of temporary accommodation during the construction stage will be carefully controlled and its period of use will be strictly regulated.

7.18. Finally, the need to expand public services and to create new local authorities for these areas will involve Government in considerable expense until the stage is reached when locally generated revenues can offset the capital and recurrent expenditures involved. For this reason, and in order at the same time to encourage such developments, the Government will have to give careful consideration to the levels of national and local revenues which will be required to ensure that any new developments are beneficial to the country's economy as a whole.

Chapter VIII—Physical Infrastructure:

Roads:

8.1. The geographical situation and physical features of Botswana create acute transport problems. The productive areas of the country enclose the Kalahari Desert — an immense area where almost no economic activity takes place but which is a serious obstacle to communications. The fact that the population centres are mostly small and scattered aggravates the problem. Road construction is costly because the distances to be covered are great also causing maintenance costs to be high.

8.2. Government maintains some 2,500 miles of roads; the remainder are the responsibility of the District Councils and are virtually uncared for. Road surfaces are for the most part local gravel, clays and sand, although there are some bitumenous stretches in the main towns. The two main trunk roads — the North-South road and the Francistown-Maun road — have been greatly improved over the past four years with the assistance of the International Development Association, but otherwise few funds have been available for the betterment of roads, and most are very rudimentary.

8.3. Whilst it is true that the improvement of roads would greatly assist in welding together the scattered communities of Botswana, investment in this sector, with resources as scarce as at present, must be carefully judged in terms of costs and benefits, that is in terms of the concrete gains, economic and social, likely to be realised for each rand spent. Based on an analysis of this nature a small number of road improvement projects has been included in this Plan.

8.4. Provision has been made for the bitumen surfacing of the road from Gaberones to Lobatsi, since vehicle densities on this road are now approaching 300 per day and are expected to continue to rise. It is no longer feasible to maintain this road adequately because, once densities rise to over 200 per day, it becomes difficult to keep pace with the ever-increasing corrugations. The bitumen surfacing of this road is therefore now considered fully justified.

8.5. Some of the existing bridges on the important main roads are subject to flooding, and in parts the drainage is so poor that the roads become impassable during the rains. This is particularly true of the following roads:—

- (a) Lobatsi to Kanye
- (b) Kanye to Molepolole
- (c) Sebinas to Totome

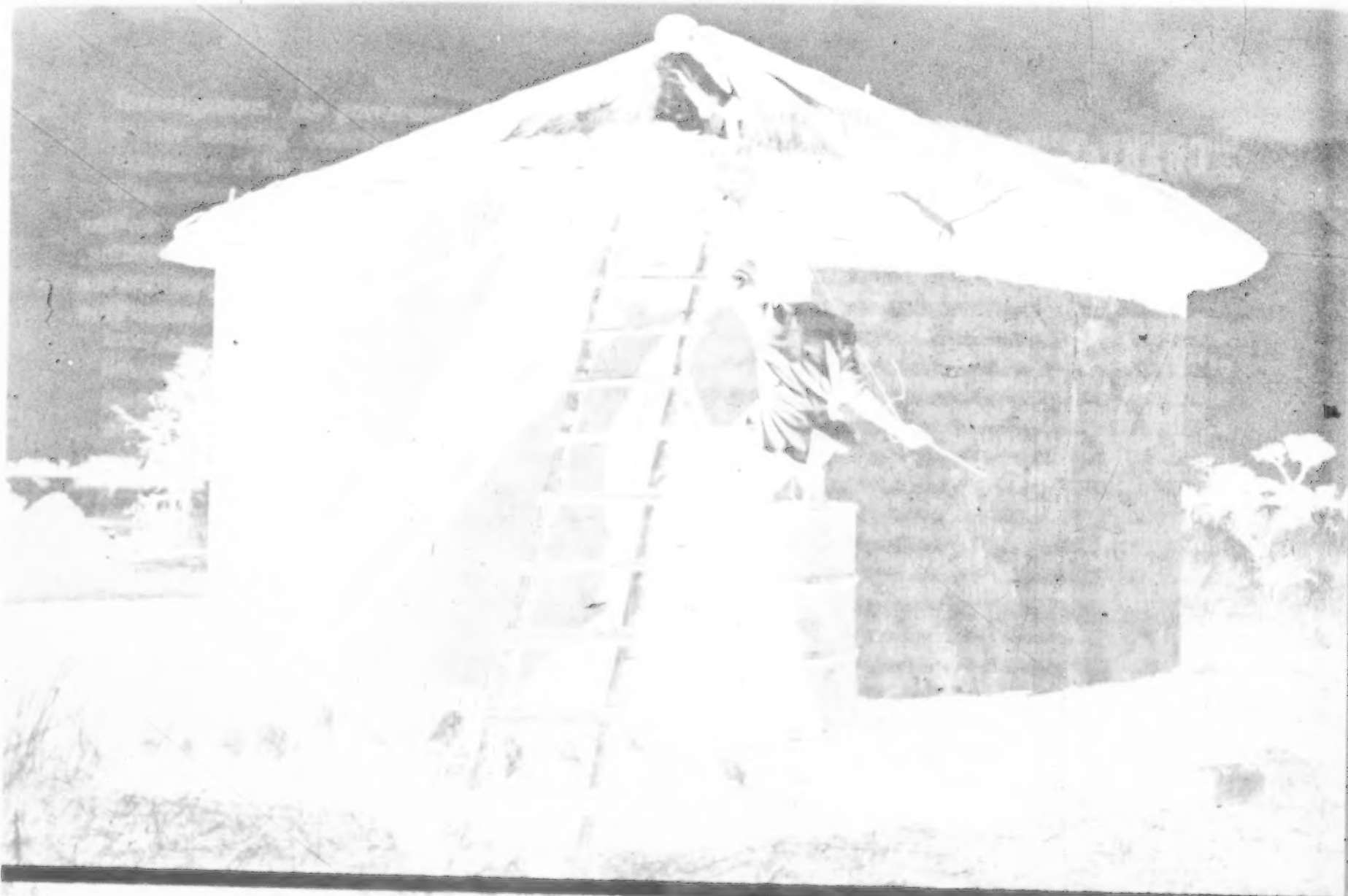
Provision is made in this Plan for a limited number of key betterment works and bridges on these roads.

8.6. Much work has already been done on the North-South road to bring it up to all-weather standard including bridge works. A considerable length of this road, nonetheless, is not fully all-weather and it is proposed to carry out works to remedy this during the Plan period. The total length aggregates approximately 75 miles located south of Mahalapye.

8.7. Within Gaberones further bitumen roads are necessary to complete the growing new township. Bitumen surfaces are required here and in other important population centres to prevent the dust menace to health in the areas where road traffic is appreciable.

8.8. In order to speed up the training of local staff in the Public Works Department it is intended to accelerate the training of personnel who are suitable for appointment as maintenance foremen, plant operators and technical assistants. In addition there is need for cost clerks to control the spending of road funds. It is also necessary for efficient road maintenance to establish depots at intervals along the highways. A total of 30 such depots are required, of which only 12 have so far been constructed; it is intended to provide the remainder within this Plan period.

8.9. If mining development takes place as anticipated, considerable road works (apart from water and power) will be necessary in the north of Botswana. This could include very substan-



tial improvements to the connections from the main North-South road to Selibe and Matsitama and Letlhakane.

8.10. Considerable road improvements are necessary in the vicinity of Chobe Game Reserve. Firstly, it is desirable to route traffic from Ngoma to Kasane away from the present riverine road where it disturbs the game to the detriment of the tourist traffic. Secondly, in order to facilitate the well ordered development of Kasane it is necessary to re-route the present road to Kazungula to by-pass the village. This would result in a new unimpeded through road from Ngoma to Kazungula which would link up with any future road improvement to Nata. A new ferry over the Zambezi River should also be provided at Kazungula.

8.11. Consideration is being given to the construction of an all weather gravel road linking Botswana directly with Zambia via the Kazungula ferry. This would involve the construction of a 190 mile road between Nata and Kazungula costing an estimated R1.6 million. Such a road would connect the Chobe district with the rest of Botswana. At the same time it would provide an alternative route for trade with East and Central Africa. The road, however, would not be economically justified unless a minimum level of through traffic to Zambia was assured.

8.12. Lastly it is proposed to improve road communications with the Molopo farms which has become an important ranching area. At present access to the Molopo farms from the main centres of population in Botswana is difficult, and most of the traffic travels via the Republic of South Africa. It is, therefore, planned to upgrade the road linking this area to Lobatsi.

Air Services:

8.13. In the immediate future the administrative and social benefits which can be expected to accrue from better communications may be gained in many instances with least expense and most flexibility though the development of air services. In the case of a number of the remoter areas supplies can be provided more

economically by air than by the costly construction of little used roads. Since the end of 1965, Botswana National Airways has been operating regularly scheduled services to all the main internal centres in Botswana with links also to Johannesburg, Bulawayo, Lusaka and Livingstone, using "Dakota" and "Beech-Baron" aircraft adaptable for passenger or freight or both.

8.14. The development of internal and external air services has created a need for improved airfields in all the places to which the present scheduled flights are operated. The runway of Gaberones, which can now take only a DC 3 aircraft needs to be lengthened and strengthened to provide a base from which regional and later international services can be mounted. Provision is made in this Plan for the necessary improvements to be effected and thus satisfy the future foreseeable air needs of the capital. Improved airstrips are to be established at Maun, Ghanzi and Serondela first and later at Lobatsi, Serowe and Mahalapye. It has been estimated that significant betterment can be achieved with an average capital expenditure of about R60,000 on each of these airfields.

8.15. The Government has recently established a Civil Aviation Branch. As a result, an Aeronautical Fixed Telecommunications Network has been set up with Gaberones as its sub-centre and links to the Johannesburg and Salisbury Flight Information Centres. Other installations include Non-Directional Beacons at Gaberones, Maun and Ghanzi with dual transmitters and diesel stand-by power; there is also at Gaberones H.F. and V.H.F. communications and a simple fire fighting service. Training courses for W/T operators are being run at Gaberones where a control tower has been erected from which Advisory Flight Information Services will be provided. During the Plan period these facilities will be steadily improved.

Meteorological Services:

8.16. The Botswana Weather Bureau supplies vital weather information for flights of the scheduled and unscheduled air services; makes area

forecasts for press and radio; maintains full synoptic duty hours from 0500 to 2000 hours daily at 6 stations and from 0200 to 2100 hours daily at Gaberones; provides climatological data, particularly weekly rainfall figures, to scores of users; is responsible for the training of meteorological observers, the establishment of all types of weather, rainfall and agricultural stations and the training of agricultural demonstrators in basic meteorological duties.

8.17. The Weather Bureau is also responsible for the establishment of networks of rainfall, evaporation and temperature stations for the use of hydrologists and veterinary research, and assists the secondary schools by establishing stations in connection with their science and geography courses.

8.18. A principal agricultural meteorological research station will be established in 1968 at Content Farm to provide data for the plant pathologist and entomologist. During the Plan period a further five agro-meteorological sub-stations will be built in association with the main research station. In addition at least five networks of rainfall and evaporation stations will be established in catchment areas to be selected in collaboration with the Geological Survey and the Water Branch; there will be a total of 75 to 100 rain gauges involved. Observers will be trained to man these stations.

Power Supplies:

8.19. There is a power station at Gaberones, which supplies both Gaberones and Lobatsi. It is now working virtually to capacity and it has become necessary to provide for the installation of further generating equipment to cope with peak demands and to provide the minimum standby capacity. Consultants are to be employed to examine the operations of the electricity section of the Gaberones Water and Electricity Unit and make recommendations about tariffs, and necessary equipment and financing to meet projected growth. Considerations will be given to the purchasing of additional thermal generating capacity of 2500 KW. Extensions of the reticulation system will be necessary to keep pace

with the continued growth of Gaberones and Lobatsi.

8.20. The situation at Francistown is similar; additional generating capacity is urgently needed to carry the town through until power becomes available from the Shashi Complex in 1972. It is intended to purchase a 250KW generator which will bring the capacity to 550KW. The only other generating plant of substantial size is the 3500KW plant at the Botswana Meat Commission which includes a recently installed 2500KW thermal generator. It is considered that this will provide sufficient power for the abattoir, processing plant and canning operations for the next ten years.

8.21. If the projected mining developments in Northern Botswana prove feasible, it is proposed to establish a thermal power station, fired with coal to be mined at Morupule, which will be capable of supplying the Shashi Complex, including the mining townships and Francistown and Tonota. It is envisaged that this power station will become operational by the end of 1971.

8.22. New generating equipment will be installed in Maun in 1968 to replace the existing plant which is old, uneconomical and unable to cope with demand. It is also planned to provide electricity supplies for the population centres of Serowe, Kanye and Molepolole. It is intended that in the case of all these projects economic rates will be charged and it is therefore anticipated that loan financing will be secured.

Surveys and Lands:

8.23. The preparation of detailed maps and plans are a prerequisite for the successful implementation of most projects. The Government is determined that the development of Botswana will not be impeded by surveying or town planning bottlenecks. Ample provision is made in this Plan for staff and equipment for the Government's Department of Surveys and Lands to fulfil its responsibilities, but the recruitment of staff, in view of the world shortage of surveyors, has proved an intractable problem. A heavy reliance is, therefore, placed on the services of private surveyors and air survey firms.

8.24. The Department is concerned with three broad categories of work:

- (i) Surveys and Mapping;
- (ii) Town and Country Planning;
- (iii) Registration of Title to Land.

8.25. During the next two years it is planned to undertake township surveys with regard to the following, using contractor surveyors:-

Gaberones Extensions	11 and 12
Francistown Extensions	4 and 5
Lobatsi Extensions	6 and 7
Ghanzi Extensions	1
Kasane Township	
Three new mining townships.	

8.26. In addition to this work surveys will be undertaken to open up State Lands for ranching, and to delineate concessions for private and Governmental use in tribal areas. Numerous small isolated cadastral surveys are also required for Government's development programme; e.g. sites for schools, public buildings, post offices, airstrips, resevoirs, etc.

8.27. In the field of mapping and cartography considerable assistance is given by the U.K. Directorate of Overseas Surveys. Work in progress includes the production of a 1:500,000 series of 11 sheets (of which 4 have been completed), a 1:125,000 series of 221 sheets (of which 104 have been completed) and a 1:50,000 contoured series of the Eastern Watershed consisting of 120 sheets (of which 14 are complete). The 230 sheets remaining to be drawn will be completed within the Plan period. With regard to large scale mapping, it is anticipated that within one year topographical maps for most towns and larger villages in Botswana will be available; these are essential for town planning purposes.

8.28. In areas where projects are being implemented a network of triangulation beacons is required as a foundation for detailed mapping and cadastral, engineering and topographical surveys. A primary triangulation has been completed. During the Plan period, a denser network of secondary and tertiary standards will be

established in specific areas. In a similar way a network of accurately levelled Bench Marks is indispensable for many engineering projects. The proposed scheme for Surveys and Training for the Development of Water Resources and Agricultural Production, for example, will require a network of accurate levels throughout the Okavango Delta, as well as along the Eastern Watershed. This task will be undertaken during the next two years.

8.29. The physical planning of townships and villages is essential if the construction resulting from the implementation of projects is to lead to orderly development and hence to least-cost solutions in the provision of urban facilities. Over the next three years layouts will be completed for the following:-

Kasane - residential and commercial township (1968)

Francistown - industrial township and high density residential township (1968)

Lobatsi - new light industrial townships and high density residential township (1968)

Ghanzi - high density residential township (1968)

Mining Townships - residential, industrial and commercial areas (1968-70)

Serowe, Kanye and Molepolole - residential and commercial areas (1969-71)

8.30. The promptness with which property transactions may be completed is partly dependent on the speed at which diagrams, general plans and the like are processed by the Department. At present there is a backlog estimated at one draughtsman/year in the completion of compilations. Every effort will be made to eliminate this backlog during 1968 by the recruitment of additional staff.

8.31. The in-service training of surveyors has been handicapped in the past by the shortage of candidates with minimum educational qualifications. The present expansion of secondary education will solve this problem in the

longer term. At present 24 trainee survey assistants are under instruction; training at a higher level will be started as soon as suitable students are available.

Posts and Telegraphs:

8.32. Distances between population centres in Botswana are great; good telecommunications are therefore an essential service which assists development to an extent that easily justifies the cost. During the Plan period it is proposed to expand the telecommunications system to enable it to meet the anticipated demand efficiently.

8.33. The present telecommunications network in Botswana is overloaded, and during the Plan period it is proposed to expand this system to enable it to meet current and future demands efficiently. On the basis of computed growth rates in certain areas, and taking into account international trends, it is estimated that the annual average growth rate for telecommunications traffic in Botswana will be in the region of 12%. This carries the implication that exchanges already full will become increasingly overloaded, resulting in frustrated subscribers, and a consequent heavy loss of revenue. Those exchanges not yet full, but with limited unused capacity will, with a 12% p.a. growth rate, soon become fully loaded and thus add to the growing congestion.

8.34. Among the plans envisaged is the provision of a number of Carrier Transmission Systems; these will expand the capacity of the telephone service between the three main centres, permit greater efficiency in the use of existing equipment and provide direct dialling facilities for subscribers. Carrier Systems will also be provided to give adequate circuits to many smaller townships. It is planned to convert most of the small manual exchanges to automatic working and to integrate them into the national trunk network with the associated direct dialling facilities. Mahalapye and Serowe are two such centres due for early conversion to automatic working. Prior to automation however, both places must be provided with a proper telephone distribution scheme to cater for subsequent

growth. The conversion of exchanges to automatic working will provide substantial savings in terms of a reduced salaries bill for operators. A number of personnel will become redundant, but taking into account the increases in telephonist strength at places such as Gaberones and Francistown and normal staff wastage there will be no net redundancy.

8.35. It is planned to construct new overhead lines to the proposed mining centres, as well as to various other places such as Sebinas, Sequani and Sedibeng. Where the construction of new lines is not feasible, yet there is a need for integration into the national system, it is proposed to set up a radio/telephone service. Maun and Ghanzi, for example have no trunk telephone service at present due to their remoteness from the existing network. These two places then, will be linked to Gaberones by the new radio system.

8.36. The telex service is another revenue earning sector of telecommunications, but the growth of this service is held back by a lack of equipment. Telex Subscribers in Botswana are at present connected to the networks of neighbouring administrations, a far from satisfactory situation. The provision of a telex exchange in Gaberones with full inter-dialling facilities with surrounding countries is planned. This facility will also be used for the distribution of telegrams within the country and lead to greater efficiency and speed.

8.37. Some developments will be more local in their effect, such as the provision of underground distribution systems. Francistown for example has a completely inadequate system of underground cable distribution. It is therefore intended to provide a cable scheme capable of properly fulfilling all present needs and foreseeable future requirements.

8.38. The postal section of this Department is also scheduled for expansion and improvement. Some twelve new post offices will be built at important towns and villages throughout the country, whilst material alterations will be effected at Lobatsi and Palapye. The new post

offices are to be built in response to the growing administrative commercial or tourist importance of the selected locations, whilst at Lobatsi expansion is needed to alleviate very cramped conditions at headquarters.

8.39. The Posts and Telegraphs Department is a self accounting unit which has no difficulty in meeting all its costs from revenue. The capital expansion planned requires the sum of R1,337,650 over the next five years. It is proposed to raise this sum in the form of loans at normal commercial rates. These developments will lead to a rise in revenue estimated to reach R1,973,700 p.a. by 1972/73.

Housing:

8.40. In spite of its small population, its low population density and the primarily agricultural and pastoral nature of its economy, Botswana is already faced with a serious housing problem. This is true even though traditional housing – constructed from local materials – is inexpensive, generally well suited to the climate and reasonably durable.

8.41. One aspect of the problem, that of civil service housing, is largely a legacy from the pre-independence era. Due to the heavy reliance upon non-local officers and the need to transfer government personnel from station to station at frequent intervals in the past, it was necessary for the Government to assume full responsibility for the provision of suitable housing for public servants. Loans were raised from the British Exchequer for housing and essential site services, and a large part of the public debt liabilities of the Botswana Government are related to housing loans. Rents payable by officers were (and still are) subsidised by the Government. With the expansion of the public sector during the past few years and the creation of a new capital at Gaborone, the Botswana Government has been forced to devote an excessively large proportion of the development funds available to civil service housing. In 1967/68, the provision of housing for public officers consumed no less than 25% of the development funds spent; yet, insufficient housing was available to enable all vacant posts to be filled, and many officers were still sharing quarters.

8.42. The Government, confronted by enormous and competing demands for funds to mount projects directly affecting economic growth, cannot persist with this diversion of its resources into the creation of non-productive – albeit socially indispensable – assets. Circumstances have changed: a high degree of mobility in the public service is no longer essential; the specialisation of administrative and executive functions in the Government will result in a growing nucleus of local officers permanently posted to the main administrative centres; and means may be found to attract those expatriate officers required other than by the subsidisation of house rents.

8.43. During the Plan period the Government will introduce schemes to encourage local public servants to build or buy their own homes. It is proposed to encourage the establishment of a building society in Botswana, and in addition the Government will investigate the need for, and if necessary create, a housing authority to finance and construct houses for private ownership or rental.

8.44. The interest of civil servants in home ownership schemes is likely to be limited as long as the rents payable on Government housing are heavily subsidised. Both for this reason and because the country can no longer afford to provide liberal fringe benefits of this kind to the public service, it is the policy of the Government to remove the subsidies on civil service housing during the Plan period. The Government has already raised to an economic level the rents payable for Government housing occupied by all non-Government personnel (i.e. United Nations experts, foreign diplomatic corps, Town Council employees, etc.). To avoid the creation of a civil service elite enjoying privileges unobtainable to the country as a whole, it is in the national interest that civil servants should pay a fair economic rent for Government housing occupied by them.

8.45. In spite of the new policies relating to civil service housing, it will be necessary for the Botswana Government to continue to construct housing for public officers for a number of

years. In the smaller and more remote administrative centres. Government housing will continue to be required. Institutional housing for the Police Force, the Prisons Service and other Departments whose staff are frequently transferred will be needed, short term expatriate contract officers must be accommodated and, until such time as private housing is available at major administrative centres, the Government will have to provide housing for local civil servants. In 1968, 200 housing units will be constructed but it is anticipated that the number of Government houses and flats which will be required thereafter will decline progressively as the housing authority extends its activities. The Government will have to continue to construct additional administrative buildings, post offices etc., and it will be necessary to build one further office block in Gaborone in 1968/69.

8.46. There is also a general need in Botswana for housing in the private sector. The drought which persisted from 1960 to 1966 drove large numbers of people to seek employment in the main urban centres, where job opportunities have increased in industry and commerce as well as in Government. The Botswana Government and the Gaborone and Lobatsi Town Councils have attempted to meet this need and to prevent the spread of slum areas by establishing low-cost housing schemes. By the end of 1967, 578 low cost housing units had been constructed, and the Francistown, Lobatsi and Gaborone Town Councils have plans to build an additional 1,100 units during the Plan period. Bridging finance has been offered by the National Development Bank but it is intended that the housing authority, when established, should assume responsibility for the funding of low-cost housing schemes in township areas.

8.47. The lack of modern housing in the three main townships, and in Gaborone in particular, has acted as a brake on commercial and industrial development in these centres. Potential investors have been deterred by the necessity of committing funds for employee housing. Whereas it is hoped that a building society will be established to service the demands for higher

income housing, it may be necessary for the housing authority to act against this bottleneck if its funds permit.

8.48. A different type of problem exists in the larger traditional towns. A growing number of individuals desiring to construct modern housing are unable to raise loan finance due to their inability to own land in these centres. Co-operative and aided selfhelp housing schemes would assist in overcoming these tenure problems and will be considered by the Government.

Geological Survey:

8.49. The Geological Survey is concerned primarily with two matters of vital importance for the development of the Botswana economy, the assessment of mineral resources and the development of underground water supplies. A necessary preliminary to the attainment of these objectives is a study of the rocks and the geological structure over the whole of the country. Regional geological mapping followed by the production of maps and reports describing the geology of Botswana is thus the prime function of the Geological Survey Department. Mining and prospecting organisations look to Government's Geological Survey to provide basic information on which to base their plans for investment of money in prospecting or detailed examination of mineral deposits. They only carry out geological mapping as a matter of expediency or to elaborate the groundwork with rather limited, though specific, objectives in view. Such work is no substitute for systematic, comprehensive geological mapping undertaken by Geological Survey. The more geological information available, the more likely is interest in mining to be stimulated.

8.50. Because of the mantle of superficial deposits blanketing the older rocks, only about 52 quarter degree sheet areas in Botswana lend themselves to geological mapping by conventional methods. Knowledge of the geology and structure in the remaining area has to be determined in different ways. A systematic programme of regional reconnaissance geological mapping on a scale of 1:125,000 was commenced in 1955/56 and since that date reconnaissance mapping

has been completed on 34 quarter degree sheet areas. Knowledge of the basic geology and structure over the remainder of the country has also reached an advanced stage. A number of publications describing various aspects of the geology of Botswana has been issued. Over and above these a wealth of geological information has been accumulated and is available for study at the Geological Survey headquarters at Lobatsi.

8.51. This basic work is supplemented by mineral survey programmes which include field and laboratory examination of potential mineral deposits; prospecting for new mineral occurrences; rendering assistance to prospecting organisations and operating mines; and wherever possible furthering interest in Botswana's mineral potential. As a result of the publication of results of these basic programmes, a number of State Grants of prospecting rights has been issued in the past and 18 grants of special prospecting rights are currently in force. Other applications are under consideration.

8.52. In underground water development work the Geological Survey carries out the siting of water boreholes after geological and geophysical investigational work and then controls drilling of selected sites to the stage where productive boreholes can be passed to another branch within the Ministry, which is responsible for equipping boreholes and for the maintenance of Government pumping units. Hydrogeological research work is also carried out by the Geological Survey which is gradually building up a considerable body of information about the nature and occurrence of underground water resources in Botswana. A series of regularly measured observation boreholes are being established in selected areas of Botswana; systematic chemical analyses of borehole waters are routine; borehole

water temperature measurements are made on a systematic basis by operators of all Government drilling rigs; tritium and carbon 14 dating of water samples from selected groundwater areas is in progress; and detailed geophysical, geological and hydrogeological data are being compiled.

8.53. Besides these main activities the Geological Survey undertakes special investigations where geological advice is required, such as in certain engineering problems, and also renders assistance to other Government Departments whenever required to do so. Special geological and geophysical research work is also undertaken where it is needed for a better understanding of the basic geology and structure of Botswana. The Director of Geological Survey is Mining Commissioner for Botswana and as a result the Geological Survey has certain specific functions to perform in relation to prospecting and mining, as well as duties relating to the inspection of mines and machinery, and the implementation of explosives regulations. In addition, the Geological Survey is responsible to Government for ensuring that prospecting operations carried out by all companies in Botswana are carried out energetically and efficiently with due regard to the provisions of the Mines and Minerals Act, in force in the country.

8.54. The important role of the Geological Survey in the development of the economy is clearly recognised by Government. During the Plan period the department will be strengthened especially on the mining side (see Project CS.01) so that adequate assistance and supervision will be available in respect of the prospective mining developments described in Chapter VII.

Chapter IX—Social Infrastructure:

A. EDUCATION:

Trained Manpower:

9.1. The primary aim in the field of education is to create in the shortest possible time, with such financial means as may be available, a stock of trained local manpower capable of serving the country's economy. First consideration must therefore be given to those factors directly related to this purpose, that is, the creation of the requisite skills for a balanced development in all branches of the nation's life, and the achievement through this stock of human investment of the highest possible degree of self-sufficiency.

9.2. The present number of posts requiring Category I manpower (i.e. persons with a degree or diploma qualifications) is about 500, of which less than 10% are occupied by Batswana. The present number of jobs requiring Category II manpower (i.e. persons with a minimum educational standard of School Certificate) is estimated to be 1,600 of which less than one-quarter are filled by Batswana. There are some 3,800 jobs which require Category III manpower (i.e. persons with Junior Certificate education); many of these posts are currently occupied by persons with no secondary education — a most unsatisfactory situation.

9.3. The secondary schools must produce qualified students capable of being trained not only to replace expatriates, but also to occupy new posts resulting from development and to meet the normal requirements arising from natural replacement. The target is to reach self-sufficiency in high-level manpower by 1990. To attain this goal it is calculated that at least 425 School Certificate holders must be produced annually by 1975 or 625 by 1980. The present plan envisages an expansion of the secondary schools which would make this possible.

9.4. Past, present and projected enrolment at different levels is as follows:—

	1961	1966	1971
Primary	39,000	71,577	80,000
Secondary	618	1,854	4,043
Teacher Training	109	310	660
University	6	100	200

9.5. On the assumption that natural replacement of the stock of trained manpower occurs at the rate of 4% p.a., and that the increase in the stock of manpower will be 6% p.a., and assuming that expatriates will be systematically replaced between now and 1990, the demand for high level manpower will be met as follows:

	Total Category I & II Labour Force	Total demand for new Category I & II Manpower	Planned Output of Local students who have completed secondary education
1967	2,080	453	84
1972	2,990	586	354
1977	3,730	622	580
1982	5,000	771	720

9.6. It should be noted that it has also been assumed that the annual turnover of the stock of expatriates (mostly recruited on contract terms) will be 20% p.a. As these are replaced by locals, the annual rate of turnover will be reduced; this explains the slow rise in total demand anticipated. If the demand for trained manpower grows faster than 6% p.a. then the output of matriculants will have to be further expanded between 1970–80.

9.7. The choice of a 6% growth rate in the total stock of high level manpower is directly related to the projected overall rate of economic growth. Experience in other countries indicates that this is a reasonable method to adopt. It must be emphasised that the figures given are also based on the assumption that the development of mining forecast in the Plan will take place. If actual development is slower or faster than anticipated, the projections of long term demand for high level manpower will need revision and the plans for the expansion of education will have to be revised.

9.8. The base figures for manpower projections have been mainly derived from data collected in the 1964 Population Census and a Labour Force Survey carried out in 1966. A new labour force survey is required to provide up-to-date manpower figures on which revised projections may be based. This research will be undertaken during 1968.

Primary Education:

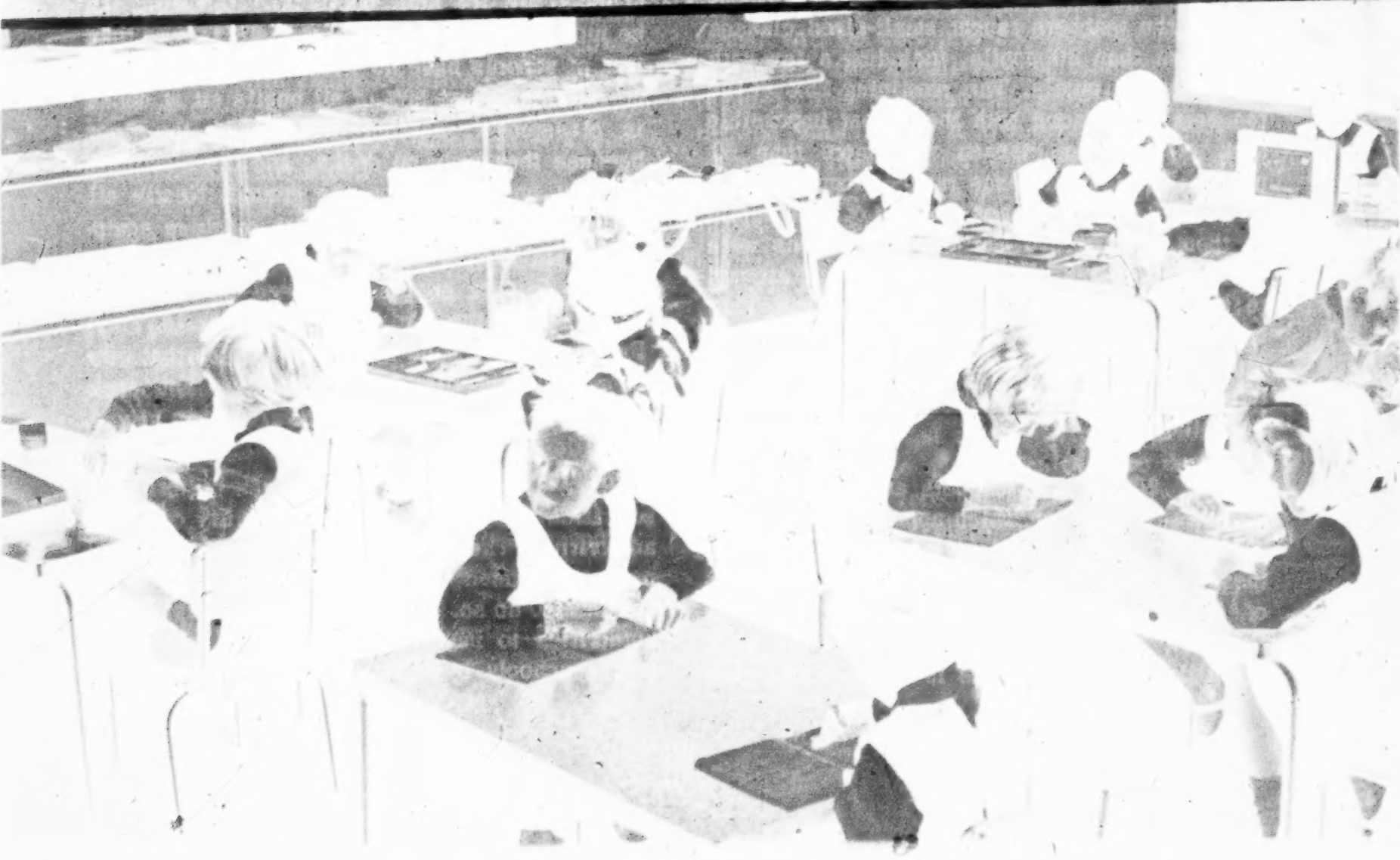
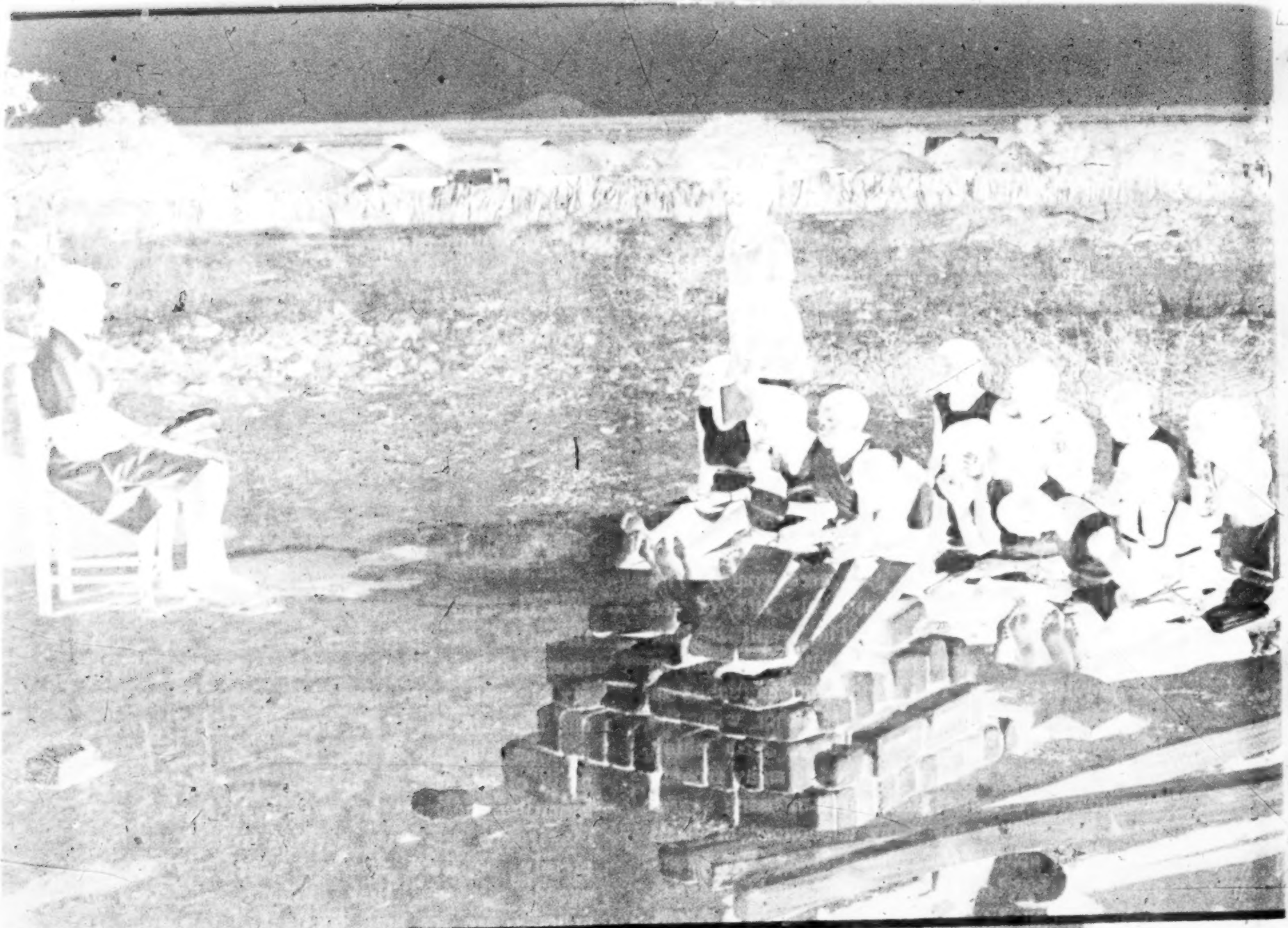
9.9. In 1967 there were 252 primary schools with a total enrolment of 71,577 pupils of whom a little more than half were girls. Excluding a few volunteers, there were 1,713 teachers of whom slightly more than half were women. The above enrolment is approximately 70% of the population of school age. The pupil teacher ratio was 42:1 representing an improvement on the previous year. The very large increases in enrolments in recent years, together with the meagreness of financial resources from which to pay teachers' salaries had led to many grossly overcrowded classes, the situation being aggravated because of the many uneconomical small classes in sparsely populated areas. For example, only 50% of the teachers taught classes with between 30 and 50 pupils in them. About 25% of the teachers taught small-sized classes with less than 30 pupils, including a few with less than 10 pupils. The remaining 25% of the teachers were faced with the almost impossible task of teaching classes with more than 50 pupils. Their class sizes ranged from just over 50 to at least 30 classes with 90 or more pupils in them. To improve matters, instructions were issued late in 1967 that no teacher should attempt to teach more than 45 pupils at one time. This meant that the over-sized classes had to be divided into two groups which attend school in turn, thus getting only a part of the normal day's schooling.

9.10. 60% of the teachers are classified as trained - a situation which appears more favourable than in many developing countries. Many of these teachers, however, were trained by means of a correspondence course. Possibly more important in assessing the quality of the work being done in the schools is the fact that more

than 80% of the teachers whether trained or untrained, have had a basic education of only 7 or 8 years of primary school, a totally inadequate qualification for a teacher at any level. There is a high degree of wastage throughout the primary course, amounting in total to 70%. Much of this has been caused in the past by the habit of making children repeat classes one or more times. In 1967 for example, more than 17,000 pupils (i.e. about a quarter of all the children in primary schools) were repeating the class of the previous year. Repetition, except in exceptional circumstances has now been abolished. It is expected that wastage rates will drop sharply.

9.11. The majority of school buildings are ill-suited for their purpose. Some are single room buildings used to accommodate as many as six classes; many have roofs which do not keep out the rain. Even so, counting all classrooms whether suitable or not, there are only half as many classrooms as classes. To overcome this situation, headmasters with more classes than classrooms are being advised to organise completely separate afternoon sessions for the excess classes. How difficult conditions in schools are for both pupils and teachers can be judged from a few simple statistics. More than 80% of schools have no water supply; 80% have no latrines; about 50% of all pupils sit at desks in classrooms; another 15% sit on the floor because they have no desks; and the remaining 35% sit under trees on the ground. Nearly all schools are badly supplied with teaching equipment. On the brighter side, during 1967 the school feeding programme based on free food supplied by the United Nations' World Food Programme has made good progress, so that now nearly all schools are participating and each child is receiving a substantial meal each school day.

9.12. The provision of facilities for primary education is primarily the responsibility of local authorities. The Central Government has in the past subsidised teachers' salaries, and will continue to do so. In addition, it will assist local authorities to improve the quality of education in the schools by introducing reforms and sup-



porting requests to donor agencies for assistance in improving conditions in primary schools (See Project ED 18: Primary School Improvement Programme). Government will further assist by preparing an up-to-date syllabus, helping Local Authorities in the preparation of realistic development plans, encouraging the formation of School Committees and Parent Teacher Associations, and seeing whether further training, either technical or in agriculture or by correspondence courses, can be devised for those primary school leavers for whom there is no room in secondary institutions. The Central Government will do all it can to encourage the different voluntary bodies which are organising training for primary school leavers.

9.13. The Central Government considers that, in view of the paucity of funds available for education, these should at present be concentrated on post primary education and on teacher training. Thus improvements in primary school facilities must be achieved through self-help, and using funds raised by the local District Councils. The Government's long term objective for primary education is universal primary education in order to impart to all pupils permanent literacy. The immediate objective is to increase the productivity of the present system by the phased exclusion of overaged pupils, abolition of repetition, splitting up of over-sized classes into manageable groups taught for part of each day, better use of school buildings, a better syllabus and improvement in the physical conditions through self help schemes. In this way the schooling of those children who attend school for only part of each day, and whose numbers are bound to increase as the demand for education continues to grow, will be more worthwhile than much of the full-time schooling which took place in overcrowded classes.

Secondary Education:

9.14. The pattern of secondary education is one of three years leading to the local Junior Certificate Examination and five years leading to the Cambridge School Certificate Examination. A first or second division pass in the latter qualifies a student to enter the University of Botswana, Lesotho and Swaziland, or to enter a General Certificate of Education (Advanced

Level) course in the United Kingdom. The past, present and projected output of qualified secondary students is as follows:-

	1961	1967	1972
Junior Certificate	67	258	500
Cambridge School Certificate			
(a) Grades I & II -	-	35	120
(b) Remainder	7	31	125

9.15. Many pupils entering secondary schools are over age, and as a result the wastage during the course is high. In 1966 for example, more than half of the pupils in Form I were over sixteen years which is the age at which they should have been finishing the course, not starting it. In the same year also just over half of the pupils in the senior forms were twenty years of age or more. Wastage between Form I and III amounts to 26%, and between Form I and V it is just over 80%. Only about 12% of the pupils completing primary school enter secondary schools, although many more pupils apply for admission. The selection process employed is being reviewed, as up to now wastage figures and examination results indicate that the existing system has not worked well. The objective is to reduce wastage between Forms I and III, and between Form IV and V to an absolute minimum. It is intended that approximately 50% of those completing Junior Certificate will proceed to Form IV.

9.16. Of the 111 teachers employed in secondary schools in 1967, only about 40% have degrees, and only 45% have received professional training. About 30% consist of volunteers, and 90% of all teachers are expatriate, the majority being Africans from South Africa.

9.17. Of the nine secondary schools, three are run by missionary bodies, two by Boards of Governors and four by Government. The latter include three former tribal junior secondary schools which were taken over by the Government in 1967. Additional buildings were erected in 1967 at the Gaberones Secondary School and Mater Spei Secondary School. Furthermore, early in 1968 additional accommodation at Seepapitso Secondary School and St. Joseph's College and completely new school buildings at Kgari Sechele and Molefi Secondary Schools will be completed.

These are very necessary improvements, but even then most schools are working with the bare minimum accommodation. As yet many are without such necessary buildings as an assembly hall, workshops, special rooms for art, domestic science and music. All except the three Junior Secondary Schools have boarding accommodation, but more is required especially at these three schools mentioned. Many students whose homes are far from the schools still have to find private boarding accommodation which in most cases is very unsatisfactory.

9.18. Out of 466 Form III pupils who sat for the Junior Certificate examination in 1967, only 258 (or 55%) passed – a disappointing result. On the other hand, in the Cambridge School Certificate examination for the same year out of 83 pupils who sat, 66 or 80% passed – a big improvement on previous years. Nevertheless the numbers qualifying are nowhere near sufficient for the country's needs. In order to meet targets for high level manpower, the following enrolment is called for:–

	Proposed 1975	Actual 1967
Form V	565	83
Form IV	609	163
Form III	1,307	476
Form II	1,470	499
Form I	1,700	633

9.19. If there is a better selection process for admission to secondary schools, care being taken to ensure that pupils are of the correct age, it is certain that the present high wastage rates will fall rapidly. There will of course, continue to be a fairly large drop out of pupils at the end of Form III as completion of the Junior Certificate course marks an entry point for the Civil Service, Nursing and Teaching. Resources can thus be concentrated on the top 50%, who proceed to studies leading to the School Certificate examination. Up to now 30 pupils per class in Form I to III, and 20 in Form IV and V have been the rule. In order however, to get the utmost value out of the existing schools, it is hoped to ensure that all classes have not less than 30 pupils and that the average class size be 35 pupils.

9.20. Secondary education on any scale is new in Botswana, and has not developed without

overcoming great difficulties, not the least of which has been finding the money to employ fully qualified staff. Figures quoted above show that the situation is still not satisfactory. These also go some way to explain why the curriculum in the secondary schools is narrow, and not well suited to Botswana's needs. The curriculum is academic and little attention is given to practical or cultural activities, or subjects directly related to Botswana's main industries – arable farming and cattle raising. One school has recently introduced agricultural science for both girls and boys. It is proposed that other schools should follow this example, and that strenuous efforts be made to broaden and strengthen the curriculum.

9.21. It is intended that the existing schools will in time admit three or four streams so that there will be greater flexibility of courses. Pupils will then be able to take subjects suited to their aptitudes, not, as at present, be forced to take only the ones available. It is hoped to provide boarding facilities at all schools so that they can accommodate pupils from distant homes. In addition to expanding the nine existing schools, it is hoped to build two new schools one in Tonota and one in Lobatsi or elsewhere.

9.22. The proposed development of the existing schools during the next three years will be as shown in the table below:

	NUMBER OF FORMS				
	I	II	III	IV	V
Gaberones	3(3)	3(3)	3(3)	2(2)	2(1)
Kgari Sechele II	3(2)	3(2)	3(2)	1(0)	1(0)
Francistown	4(2)	4(1)	4(1)	3(1)	3(0)
Moeding	3(2)	3(2)	3(2)	2(1)	2(1)
Moeng	2(2)	2(2)	2(2)	1(1)	1(1)
Molefi	3(2)	3(2)	3(2)	1(0)	1(0)
Seepapitso	3(2)	3(2)	3(2)	1(0)	1(0)
St. Joseph's	3(2)	3(2)	3(2)	2(2)	2(1)
Swaneng	4(4)	4(3)	4(2)	3(1)	3(1)
Lobatsi	2(0)	2(0)	2(0)	–	–
Tonota	4(0)	4(0)	4(0)	3(0)	3(0)

Note: The figures in brackets represent the number of forms in 1967, those without brackets the number of forms in 1970.

9.23. After 1970 it is envisaged that three new junior certificate streams should be added each year and, by 1975, this pace must be

doubled if self-sufficiency in high level manpower is to be achieved by 1990. This rate of expansion will only be possible, indeed will only be justified, if the anticipated mining development takes place.

9.24. Fortunately it is possible in many instances to depend on the dedicated private bodies in charge of the schools to undertake the expansion more efficiently and more cheaply than could Government. For example Swaneng Hill School is a private co-educational secondary school with 290 students in 12 classes. The school is unique in Botswana. Much of the building of the school has been done by the voluntary labour of the teachers and students. It has been financed mainly by voluntary contributions from overseas; many of its teachers are volunteers. It is the focus for a number of promising community development projects, primarily concerned with the training of skilled artisans employed on revenue earning schemes.

9.25. In recent years the desire for secondary education has developed at such a tempo that the established secondary schools, although enormously expanded, have not nearly met the demand for places. As a result many pupils have turned to self-help night-schools organised on a voluntary and private basis. By January 1968, the numbers of applicants for places at these night schools had risen to over 4,000 (although a fee of R20 per annum is often charged), only a small proportion of whom could be offered admission. This demonstrates dramatically the yearning for education among young Batswana. There is, however, a serious danger involved in these developments; there is a strict limit to the numbers of adequately qualified teachers available even when all voluntary teachers are taken into account. Over-expansion, using inadequate facilities and sub-standard teachers, may quickly result in chaos, disillusionment and bitterness for the young people whose hopes have been raised and then shattered. The Government is, therefore, concerned that these continuation classes should be conducted on a sound and proper basis, and not be expanded beyond the resources available. Consideration is being given to running correspondence courses

to supplement the teaching done, though this will undoubtedly demand both additional skilled personnel and finance.

Teacher Training:

9.26. Of the 1,713 teachers in primary schools 671 i.e. about 40% are untrained. The present pupil teacher ratio is 42:1. The long term aim is to reduce this ratio to 35:1 and enable all schools to be staffed with trained teachers.

9.27. Full time training of teachers is provided at present at two Government Teacher Training Colleges, one at Lobatsi, and the other at Serowe. Two courses are offered: the Lower Primary Teachers' Course, and the Higher Primary Teachers' Course. In 1961 the numbers of entrants to these two courses were 35 and 11 respectively. In 1967 the corresponding figures were 102 and 16 respectively.

9.28. The Government's immediate plans for developing the teacher training service will be along two main lines; to upgrade teachers at the lowest level, and to make vigorous efforts to train a large proportion of the 671 untrained teachers at present teaching in the schools. Concerning the former aim, the Primary Lower Course will be discontinued as soon as practicable after 1969. At the end of 1968 about 500 pupils will complete Form 3, and sit for the Junior Certificate Examination. From among these, it is hoped to recruit about 90 trainees for the Primary Higher Teachers' Course. There will be no drop in the numbers of trained teachers turned out each year, as the Primary Higher Course lasts two years, whereas the Primary Lower Course takes three years.

9.29. In-service courses will be held at Francistown where new buildings, provided by the Government of Sweden, accommodating 180 students at a time, will be ready early in 1968. It is hoped that the first batch of 60 trainees will be taken in mid-year for their first residential course lasting a few weeks. They will afterwards return to teach in their schools, but continue to receive instruction from the Francis-

town College by means of a correspondence course and radio lectures. These will continue for two years, interrupted once at the end of the first year and again at the end of the second year when the trainees will return to the college for two further residential courses each lasting a few weeks. Other groups will follow and undergo the same training so that by the end of 1968 between 200 and 300 untrained teachers will be having continuous in-service training. At a later date it will be necessary to provide vacation courses for practising qualified teachers. If teachers are to be kept up to date in their approach to education, and in the use of new aids and techniques, they will require periodic refresher courses. This is particularly true in Botswana where teachers are often working in remote and isolated areas. In a few years' time when the present number of untrained teachers qualifies, the Francistown college would be used for training of teachers prior to service.

Higher Education:

9.30. At present there is no post-school certificate course offered at any of Botswana's secondary schools. Students proceeding to higher education are either sent to the University of Botswana, Lesotho and Swaziland or on scholarships overseas.

9.31. In order to meet the country's high level manpower needs the number of students proceeding annually to post-school certificate course should be raised to 130 by 1975 and 200 by 1980, of whom a possible 50% may eventually become full university graduates. So long as Botswana has only a few students in this category, it is rational to send them abroad for their studies. However as soon as there are sufficient students to justify the expense, it is proposed to establish a sixth form at the Gaberones Secondary School.

9.32. Although the immediate need for more graduates is obvious if localisation is to proceed rapidly at the higher levels, expansion of the numbers attending higher education courses must await expansion of secondary education, and this factor introduces a five year time lag. Because

of the small numbers of Form V leavers qualified to proceed to university education, it is most important to introduce strict control over bursaries to ensure that the required types of high level manpower are being produced.

9.33. The future of the University of Botswana, Lesotho and Swaziland is under review. The activities of the University must be geared more closely to the practical needs of the three countries it serves. It has been agreed that the University should engage the services of an experienced planner who will coordinate the long term manpower requirements of the three countries and make recommendations for the development of the University to meet these requirements. The objective will be to produce a 15 year University Development Plan (1970-1985).

9.34. If the University is to belong truly to the three participant countries, it is important for the University to have a physical presence in each of the countries. So far no significant University development has taken place in Botswana. It is, however, proposed to establish as soon as possible a Short Course Centre in Gaberones to be concerned primarily with the teaching of public administration. For this purpose the Government has set aside in Gaberones a 20 acre plot, on which the University can erect buildings, and has reserved a further 170 acres of land also in Gaberones for the future expansion of the University.

9.35. The number of Batswana studying at the University in October 1967 was 38. The total recurrent costs of the University and bursaries to be met by Government in the current financial year amount to R153,399, giving a cost per student of over R4,000 per annum. It is evident that a country as poor as Botswana cannot afford such expensive education, and whilst the Government is anxious that the University should continue, the University must obtain overseas aid to reduce the recurrent burden falling on the Botswana Treasury. The situation will improve as the number of students increases but for many years the number of Batswana at U.B.L.S. will remain low. By 1975 it is unlikely that the number will have risen to above 200, whilst a

University requires perhaps ten times that number to become an economically viable institution.

Technical and Vocational Training:

9.36. Formal technical and vocational training is, with the exception of the Mochudi Homecraft School, centralised at the Botswana Training Centre. Since 1966 the Centre has been responsible for technical, civil service and commercial training. During 1966 and 1967 respectively 760 and 740 students attended courses varying from one week to three months. Full time three year trade courses were also begun for school leavers wishing to be trained as skilled artisans. In 1967 the staffing position improved with the acquisition of teachers and civil service trainers provided under the Special Commonwealth African Assistance Programme and I.L.O. During the year the Thema Language Laboratory was completed and a civil service training block is now nearing completion.

9.37. Technical training at the Centre is concerned with producing the skilled artisans so urgently required. At present there are 47 young men undergoing training as carpenters, bricklayers, electricians, and mechanics and by May, 1968 this number will have been increased to 100. Present trade courses are of three years' duration but from May, 1968 it is proposed to reduce courses to two years. Successful trainees will be awarded a first class Government Trade Test Certificate. The emphasis in the technical training field is placed on full time courses; in-service courses are also run for various Government Departments. In the immediate future civil service training courses will be of short duration, varying from one week to three months. The Centre is now able to mount courses in: Executive and Administrative skills, Stores, Registry and Revenue Procedures, and an Induction course for new entrants to the Civil Service. Typing courses leading to the Pitman's Elementary, Intermediate and Advanced Certificates are also held for Government employees. Special English courses are also run for Government departments. The commercial training programme whilst modest is vigorous; in addition to correspondence courses, short courses are offered for

the commercial and co-operatives sectors in Junior Management. Elementary and Advanced Book-Keeping courses are also run for Consumer and Thrift and Loan Co-operatives. In future it is planned to hold residential one year courses for commercial clerical staff.

9.38. In addition to the training now being provided at the Botswana Training Centre, valuable additional vocational training is being undertaken by the Youth Brigades run by the Serowe Youth Development Association and the Community Development Department. Associated with the new secondary school to be established at Tonota will be a whole range of Brigades similar to those now functioning in Serowe. The activities of the Brigades are described in the section of the Plan devoted to Youth. The responsibility for overall standards of technical training rests with the Botswana Training Centre, where trade testing is undertaken.

9.39. To assist in the planning of technical and vocational training, a National Technical Training Advisory Committee has recently been appointed, on which private enterprise is fully represented. One objective is to arouse a greater interest in training in the private sector. Firms operating in Botswana have long relied on the comfortable assumption that, if skilled workers are required, they can easily be recruited from neighbouring countries. This attitude is no longer acceptable. Local people must be given the maximum opportunities for in-service or on-the-job training. Private firms will be expected to sponsor trainees at the Botswana Training Centre and to co-operate in the planning of short period release courses.

9.40. The manpower studies currently being undertaken will provide the basic data on which a long term plan for technical and vocational training may be based. It is possible that the manpower requirements arising from the anticipated mining developments will create a need for a Technical College in the north of Botswana. A decision on this will be taken before the end of 1968. It is intended that the Botswana Training Centre will be progressively expanded with priority being given to courses for technicians.

Civil Service training, and commercial courses will be taken over by the University's Short Course Centre when it is completed. Botswana cannot afford and should not attempt to provide specialised technical training for which the manpower requirements are small, whenever the needs can be met in institutions in neighbouring countries (Zambia, Malawi, Swaziland, Lesotho etc.) or overseas. However, most of the training of sub-professional cadres can only be done adequately within the country. In all cases where training can be carried out more cheaply in Botswana, the necessary provision will be made.

A. MEDICAL SERVICES:

9.41. With its clear, dry air and temperate climate, Botswana is generally a healthy country. Nevertheless, dietary imbalances, ignorance of the value of modern medical practices, low standards of communal hygiene and the past neglect of the medical services have combined to create pressing needs for the improvement and expansion of medical facilities. The sudden growth of new urban centres and the prolonged drought have exacerbated the problems; the promise of mining developments calls attention to the need for additional medical services.

9.42. The main diseases prevalent throughout Botswana are tuberculosis, gastro-enteritis and pneumonia. During periods of drought, malnutrition is frequently encountered, particularly among children. The rate of infant mortality is still relatively high. Malaria is endemic in Ngamiland and Chobe, and epidemics occur in the south during seasons of heavy rainfall; Ngamiland is also infected by sleeping sickness. Bilharzia, both haematobium and mansoni, is found in Eastern Botswana and in small pockets in the Okavango Delta.

9.43. To combat these diseases and to treat illnesses, there were 17 Medical Practitioners in Botswana in 1967 of whom 10 were in the Government Service. The ratio of doctors to the population was thus one doctor to 35,300 persons nationally although, due to the uneven distribution of the population, the ratio was as high as 1:67,000 in certain areas. Medical care is pro-

vided by means of hospitals, out-patient departments, health centres and dispensaries, the latter two having no resident doctors. Of the total of 1,626 hospital beds available in Botswana (giving a ratio of 2.7 beds per 1,000 persons) 649 beds are provided by various Mission organisations, upon which the Botswana Government has had to place great reliance. With the exception of the Princess Marina Hospital at Gaborone which is newly constructed and incomplete, most of the Government medical centres are antiquated and grossly overcrowded, having been built originally as cottage hospitals.

9.44. While recognising the inadequacy of the existing medical facilities, the Botswana Government is unable to allocate sufficient resources to the health sector to raise the standard of medical services to an internationally acceptable level. Faced with limited resources and pressing demands for productive investments in all sectors, the Government is forced to restrict medical plans to modest targets. Under the National Health Plan, prepared with assistance from the World Health Organisation, priority has been given to the staged development of existing "core" medical institutions in the main population centres. Similarly, with regard to staff expansion the Botswana Government cannot attempt to achieve from its internal resources the targets set for developing countries by the World Health Organisation in terms of the United Nations Development Decade, namely one doctor for every 10,000 inhabitants. The aim in this Plan is to provide one doctor for every 20,000 persons by the end of 1972 and maintain the present ratio of one nurse to 3,100 inhabitants.

9.45. With the possible exception of a new hospital to service the needs which are likely to arise from mining developments, no new hospitals will be constructed in Botswana during the next five years, but a determined effort will be made to expand and improve the existing six Government hospitals at Gaborone, Francistown, Lobatsi, Serowe, Mahalapye and Maun. Central to the National Health Plan is the continued development of the Princess Marina Hospital at Gaborone as the main referral hospital for cases requiring specialist surgical or medical treatment

drawn from the whole country. In addition, this hospital will serve as the headquarters of the medical services in Botswana; the central medical stores and midwifery, nursing and medical aide training will be run from Gaberones. The Gaberones hospital must also cater to the needs of the rapidly expanding population of Botswana's capital. With 44% of the population of Gaberones under the age of 14 years, a paediatric ward is required and an antenatal, postnatal and child welfare clinic will be added to complement the maternity ward, which will be finished in 1969/70, to complete the final phase of the development of this hospital. Ward extensions will be required as the population expands thereafter.

9.46. It is intended during the five year period to renovate and expand all five district hospitals. The Serowe hospital requires numerous alterations, additional staff and service facilities and a new paediatric ward. A new pupil nurses home is also needed to enable this hospital to fulfil its function as a training centre. A more ambitious programme is required to upgrade the Mahalapye Hospital, the main features of which will be the addition of an operating theatre, a surgical ward and an ante-natal, post-natal and child welfare clinic. The National Health Plan calls for the construction of an outpatients' block and an isolation ward for infectious diseases in Lobatsi at the Athlone Hospital. A new operating theatre will also be justified towards the end of the plan period. The mental home at Lobatsi, the only one in Botswana, is grossly overcrowded and an extension to accommodate an additional 20 beds is urgently needed. In the north, the Francistown Hospital will be enlarged to provide a male ward, a paediatric ward and a labour ward and delivery unit. Training facilities will also be expanded at Francistown, and the hospitals at both Francistown and Maun require kitchen and laundry units. In addition to this programme of ward, training and service expansion at the six Government hospitals, housing will be built to accommodate staff increases. Great emphasis is placed in this Plan on staff training, particularly of those grades working in rural areas in order to increase the effect of preventative medicine.

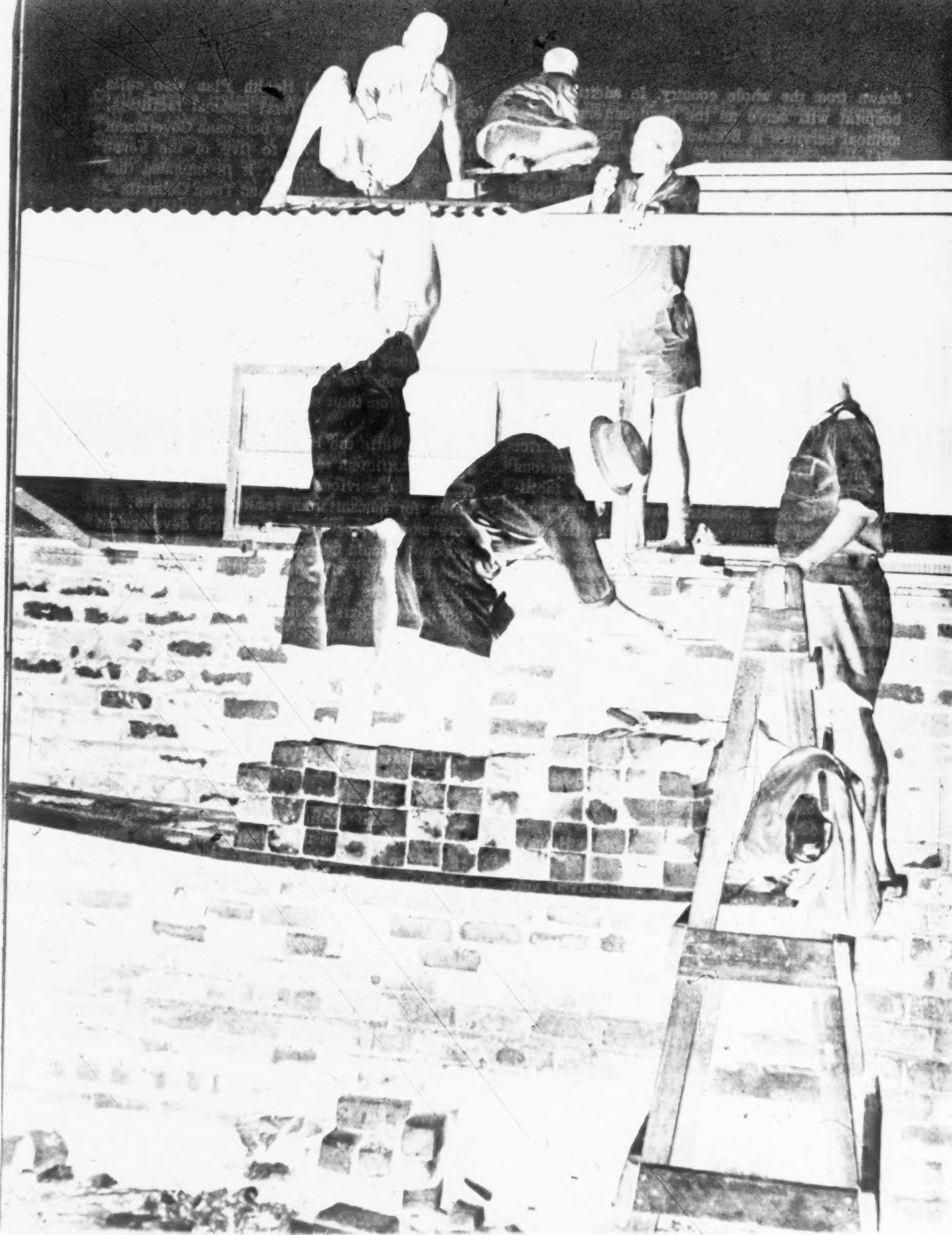
9.47. The National Health Plan also calls for an improvement of rural medical facilities. During the Plan period, the Botswana Government will effect improvement to five of the seven Government health centres. It is intended that local authorities – District and Town Councils – will ultimately assume full responsibility for district health centres and clinics.

9.48. Throughout the Plan period the Botswana Government will continue to support the efforts of missions in the medical field and to contribute towards their recurrent expenditures. It is hoped that the missions will be able to secure funds for the expansion of their four hospitals from their own sources.

9.49. While the Botswana Government cannot allocate sufficient resources to raise the standard of medical services in Botswana to the level which for humanitarian reasons it desires, the more modest programme of medical development proposed should improve services to the greatest possible extent with the funds likely to be available. With its emphasis on the amelioration of conditions at existing hospitals, minor but essential ward expansions, training and preventative medicine and child health, the National Health Plan should ensure, if fully implemented, that the economic development of Botswana is not unduly retarded by poor national health.

C. COMMUNITY DEVELOPMENT:

9.50. The Government recognises that the economic and social development of Botswana greatly depends on the extent to which the majority of the population are prepared to change their traditional attitudes and practices for a more modern and scientific mode of life. In a country such as Botswana, where the life of most of the people is determined by tradition, all development means change – change not only in the way of life but also in the attitudes and values which underlie this way of life. In order to be successful plans for development in areas which affect the people closely – such as new methods of cultivation, the introduction of new crops, improvement in animal husbandry practices, changes in attitudes to health and nutrition –



must be understood by the people and reasons for the changes appreciated.

9.51. Through the medium of local or village development committees, and women's and youth clubs, Government's Community Development Department is responsible for teaching the people in the villages and townships to prepare themselves for change, to welcome it and to benefit from it. The Community Development Department will be concerned during the Plan period with four main areas of action: the formation and encouragement of voluntary groups; the spread of basic education in practical fields; the improvement of physical amenities through communal self-help; and the encouragement of economic enterprise on a community basis with the provision of appropriate training facilities.

9.52. The basic Community Development work is carried out by the Community Development Assistants (CDAs); it is they who are in daily contact with the people. The present activities of the Community Development Department are based on approximately thirty CDAs in the field, supervised by four Assistant Community Development Officers. The long term objective is to have one C.D.A. per 5,000 people. The target set in this Plan is to double the present field staff within five years, which will give an approximate coverage of one C.D.A. per 10,000 people. The C.D.A.'s will be given short professional training in community development methods and techniques before they are sent to the villages. This initial training will be reinforced by regular in-service training courses. Advanced training courses will be given to those officers who will be supervising self-help and other programmes at the district level. As far as possible this training will be done at the national level in conjunction with the Botswana Training Centre and various Government Departments.

9.53. Before any progress can be made in development, projects have to be planned, resources determined and people organised. This is as true at the village level as it is at the national level and for this reason the establishment of Village Development Committees is being encouraged. These committees will be

concerned with identifying what the community needs in terms of buildings, education facilities, economic, social and recreational amenities; it will be responsible for mobilising the resources of the community to implement local schemes. Since they will be chosen by the villagers and since the decisions and the plans of the committees will be discussed at Kgotla meetings the people will participate actively in the development of their own community. The Village Development Committees are thus to become the basis on which the community development programme is to be built.

9.54. The CDAs are responsible for interesting the people in the village in development and encouraging them to elect their Village Development Committees. They help the committees to organise themselves, guide the planning and implementation of projects, and act as liaisons between the village and other extension officers, the Community Development Department and other Government Departments.

9.55. The Government is aware that much progress may be achieved and a noticeable improvement made in the standard of living of the people through their own efforts - by self-help. During the recent drought years a Food for Work (Ipelegeng) programme was mounted, based on the self-help principles of development, 33,000 workers were engaged on 700 projects ranging from the erection of school classrooms to the building of dams and roads. Over a period of 15 months a remarkable amount of rural construction took place. Full advantage of this development has been taken to make the people aware of their own potential. It is now possible to organise the people through Village Development Committees, to mount a less dramatic but more sustained programme of local self-help. Over 300 projects are presently being undertaken on this basis; the community is expected to provide the labour and the bricks whilst the Government assists in the provision of doors, windows, cement and roofing. This programme will be continued and expanded. The Government will encourage local investment in community projects by offering financial assistance on a rand for rand basis. The planning of self-help projects will be carried out in

consultation with local district councils, and should reflect priorities established in the district development plans.

9.56. Since Independence, Government has initiated many development projects and introduced changes aimed at the rapid social and economic advancement of the country. The extent to which people and their local leaders understand and accept these changes will determine the rate of development of their villages. It is important that there be people in the villages who are able to provide constructive and positive leadership. To promote the spirit of self-help and to facilitate acceptance of advice given by Government extension workers, the Community Development Department will organise special courses for District Councillors, Headmen and other village leaders.

9.57. Literacy classes will be held on a small scale in several villages organised by the Community Development Assistants, Women's clubs, or other interested groups. The Community Development Department will help these groups by providing books and materials, and will issue certificates to those who have completed the first and second books of "Bala Setswana". The need for an organised Literacy Programme with trained literacy teachers is obvious. As a start it is proposed to establish a literacy training programme through which voluntary literacy teachers can be given training in the techniques of adult education and literacy. Special reading materials will be produced for those taking the literacy classes and other audio-visual aids will be utilised.

9.58. The recent drought focused attention on the need to improve nutritional standards in Botswana and to make better use of food resources. The hardship of recent years has in turn made the population receptive to new ideas regarding better food production, utilisation and preservation. A Home Economics Unit has recently been formed to organise, train and actively engage rural women in better methods of food production, utilisation, preservation, and storage. A number of courses have been successfully held at both village and regional level. Approximately 100 women's clubs have now been

formed in Botswana and these will be used as a medium of contact with rural people. These clubs will be encouraged to develop vegetable gardens to meet certain vitamin deficiencies. During the Plan period the home economics programme will be continued. To assist the work it is proposed to purchase a mobile van equipped with demonstration equipment. A demonstration kitchen together with stove, and other equipment will be constructed in Gaberones for central training courses.

D. YOUTH:

9.59. There were approximately 200,000 boys and girls between the ages of 6 and 20 of whom some 35% were enrolled in school in 1966. The number of primary school leavers was about 12,000. Of these under one quarter completed seven years of education and approximately 5,000 may be described as permanently literate. The number leaving after completing Standard 7 rose to over 5,000 in 1967. With the existing levels of employment in Botswana, only two or three out of ten primary school leavers can hope either to find salaried jobs or obtain further training or education. The remainder must find employment in the rural economy. Young people are aware of the sharp contrast between the high standard of living enjoyed by the select few with paid employment and the standard of living of those in the traditional agricultural sector. They believe – as do their parents – that the only way to escape the unrewarding life of a subsistence farmer is by acquiring education. Hence the great popular demand for education which has led to the crowding of Botswana's primary schools. But education alone does not guarantee employment and, therefore, each year the majority of school leavers discover that they have no alternative but to return to the family farm or enlist for mine work. The white collar jobs to which they aspire do not yet exist. The country thus risks producing a deeply dissatisfied generation of young people who will grow up believing themselves to be failures with no prospect of enjoying a decent standard of living.

9.60. Meanwhile the development process is inevitably disrupting the traditional pattern of social relationships both within the family and

in the community at large. The strains and tension which develop are bound to impinge more severely on young people who are striving to establish themselves.

9.61. The only long term solution to the problems of under-employed youth is through genuine economic development, leading to the natural creation of new job opportunities. However, the immediate needs of the youth cannot be neglected, for ultimately the progress of the nation will depend on them. The Government intends through education in the schools and in youth groups to instil new ideals, a sense of purpose and a dedication to the nation. The youth must be provided with a vision of a better and more prosperous society to the creation of which the national effort may be directed.

9.62. The concrete steps towards the achievement of these objectives proposed in this Plan are as follows:—

- (a) the encouragement of the formation of Builder's Brigades, Mechanical Brigades, Farming Brigades and other such groups, aimed at the creation of skilled workers who may revolutionise the rural sector;
- (b) the adaptation of the primary school syllabus to meet the needs of the vast majority of the children who require to be prepared for a rural life in the most practical manner possible;
- (c) to encourage national youth organisations responsible for character training through recreational activities, such as the Scout and Guides movements, to orientate their activities to meet the peculiar needs of Botswana's youth.

9.63. The Youth Brigades will provide basic training in various technical skills such as brick-laying, carpentry, weaving, dress-making, wood turning and other handicrafts. The youths will receive instruction while working without pay on specific projects from which sufficient revenues will be earned to cover the recurrent costs of the training. Adequate standards of training will be ensured through trade tests.

9.64. To co-ordinate and encourage voluntary youth organisations, the Government has established a Youth Council with wide representation. This Council will provide Government with a clear indication of the assistance required by the voluntary organisations and will enable funds to be channelled to the highest priority projects. It is hoped that finance may be obtained from friendly institutions overseas; a target figure of R100,000 has been set to be raised over the next three years.

9.65. Land for a Youth Training Centre has been acquired on the western side of the Gaberones dam. During the Plan period this site, known as Aedume Park, will be developed. Provision will be made for home economics training to be associated with a demonstration vegetable garden and poultry farm, in addition to a variety of recreational facilities.

9.66. The Government has under active consideration the creation of a Youth Service. Care will be taken to avoid involvement in the type of costly mass organisation which has created serious social and political problems in a number of other African States with little positive benefits. It is not wise to mobilise young people unless their energies and interests can be channelled into productive activities. Since Botswana has very limited resources, the Botswana Youth Service will be planned cautiously and modestly, as expensive mistakes cannot be afforded. The first step will be to seek experienced advice from other countries.

E. SPORTS:

9.67. Sporting activities at the national level are co-ordinated through the National Sports Council. It is intended that each sport should have its own association and that the National Sports Council should include representatives of all the main sporting associations. So far, the only fully active association is that concerned with football, the national sport; during the Plan period the National Sports Council will be closely concerned with encouraging other associations to be formed so that new sports may be popularised.

9.68. Essential for the development of sport is the provision of proper facilities. A site for a National Sports Centre has been chosen in Gaborone and so far a stadium, golf course and tennis courts have been built. The objective is to make the Centre a venue suitable for national sporting competitions. The single greatest need is the construction of a competition size swimming pool at the Centre; it is intended that this should be completed during the Plan period. To raise funds for sporting facilities a Botswana National Sports Appeal Fund has been established.

F. NATIONAL MUSEUM:

9.69. In May, 1966 a committee was appointed to study the possibilities of creating a National Museum in Gaborone. It was decided to construct a building which would form the nucleus for the museum which was to be completed in stages, as expansion required. There were to be four departments: National History, Pre-history and Archaeology, Ethnography and an Art Gallery.

9.70. An appeal was launched and strenuous efforts made to elicit support and donations from private and public bodies, both national and international. Sufficient funds have been raised so far to meet the cost of the basic building, but donations are still required to meet the cost of equipment and furnishings and to augment Government's subsidy covering the main running costs. A substantial part of the monies already received was donated by local traders, civil servants of all ranks and private individuals.

9.71. A National Museum and Art Gallery Bill has been enacted. UNESCO has provided a fellowship in museography to enable the museum's first executive officer to be trained. It is proposed shortly to publish the first edition of a semi-scientific journal, to be known as Botswana Notes and Records; this will provide an outlet for the results of research sponsored by the Museum.

9.72. The Museum will soon take its place as an educational institution and a centre of research. A collection of lectures suitable for schools will be prepared, each to be illustrated by museum material. In short, it will provide a national focus for a variety of cultural activities.

G. NATIONAL LIBRARY:

9.73. On the basis of technical advice given by the Director of the Books Department of the British Council, a National Library Service has been established with Headquarters in Gaborone. Space was provided within the Gaborone Town Hall Building. The British Council also donated book-stock worth R10,000. The National Library was opened in April, 1968.

9.74. The original plan also contained proposals for the establishment of service points in the major district centres. It is intended that this development should take place during the Plan period, in close co-operation with the various educational institutions and the District and Town Councils. The first four Branch Libraries to be established will be located in Serowe, Kanye, Lobatsi and Francistown.

9.75. The long term aim will be to provide a library service to readers in all parts of Botswana, through network branch libraries in important population centres, supplemented by mobile and postal library services to outlying areas. The provision of buildings, vans and book-stock will not alone ensure an adequate service. It requires, in addition, professional staff. It will therefore be necessary to undertake a training programme, both in-service and by sending suitable candidates overseas. This also will be done during the Plan period.

Chapter X—Central Government Services:

Central Government Administration:

10.1. The transformation of the Government organisation from a typically decentralised colonial system to a central ministerial system has been rapid and pervasive. From internal self-government in March, 1965, Botswana moved quickly to independence in September, 1966. The preparation of the Public Service for these constitutional and structural changes was greatly complicated by the fact that the seat of the central government remained in Mafeking, in the Republic of South Africa, until early in 1965, when the move to the newly-constructed capital at Gaborone occurred. The effects of having the headquarters of Government physically located in a foreign country were manifold. It was impossible to associate political leaders closely with the work of Government since some of its members were unable to travel to Mafeking. It was equally impossible to expand the agencies of the Central Government since housing and office accommodation were unavailable in Mafeking and it was pointless to construct additional facilities there on the eve of the departure of the government to Gaborone.

10.2. The move to Gaborone, coinciding with the acquisition of self-governing status, triggered a sudden expansion of the Central Government. Where the central administration in Mafeking had consisted of no more than 25 officers under the Resident Commissioner, there were, by 1967, some 275 equivalent Ministerial posts in the seven Ministries which were created. The initial unfamiliarity of the Public Service with the new organisational structure caused transitional problems which were exacerbated by the dearth of qualified local officers and the departure of a number of expatriates after independence. These difficulties were in turn heightened, by the intensification of emphasis on economic and social advancement, by a rapid expansion of the development programme and by the fact that reforms were simultaneously introduced in the system of local administration.

10.3. Some of these transitional problems remain. There is still an acute shortage of trained local manpower for civil service post-

tions. Certain key departments in Government are still inadequately staffed and equipped for the responsibilities which have been placed upon them; and the continuing need to replace departing expatriate officers presents special difficulties. The Botswana Government is fully conscious of the vital importance of maintaining a vigorous and efficient administrative service. One of the major objectives of the Government is therefore to strengthen the central government administration in order to equip it for its role in the national development effort. To this end, the Ministry of Development Planning was created in September, 1967, under the Vice-President, and provision has been made for further staff expansions in those Ministries and Departments which are most directly concerned with the implementation of national development plans. Adjustments continue to be made in the portfolios of the various Ministries to accommodate shifts in policy and improve co-ordination.

10.4. The consolidation of Central Government in Gaborone is not yet complete. The main offices of the Surveyor General's Department remain in Mafeking with the Deeds Registry. Both agencies will be moved to the capital during 1968. Apart from the Geological Survey Department and the Department of Posts and Telegraphs, the Headquarters of which will continue to be situated in Lobatsi, all senior departments will, with the move of the Surveyor-General, be located together with their parent Ministries in Gaborone.

Localisation and Training:

10.5. The Botswana Government has from the outset stressed the key role of the Public Service in the development process. This is particularly so in a country such as Botswana, where fundamental social reforms and a substantial build-up of social and physical infrastructure must precede economic progress. Because of the failure to educate and train local officers during the colonial period, the Government at present relies heavily on the valued services of expatriate officers, mainly recruited on contract terms. The rapid turnover of expatriate staff, however,

hinders the progressive build-up of local experience which would occur with a permanent Public Service made up of citizens. This lack of continuity has a very real cost.

10.6. The Government's policy is to localise the Public Service as fast as is consistent with the maintenance of acceptable standards of administration and efficiency. During the period of this Plan new measures will be taken to accelerate the process of localisation.

10.7. Although reasonable progress has been made with the localisation of the Public Service since pre-independence when, only some six years ago, virtually all senior and middle-level posts were held by expatriates, almost 24% of the officers in the Public Service were expatriates in January, 1968. Out of a total of 2,986 officers in established posts in the Public Service, 704 officers were expatriates, of whom 266 officers were Africans from neighbouring countries. The ratio of expatriate to local officers was particularly marked in the senior (superscale), administrative, professional and scientific, and technical cadres where the percentages of expatriates in post were 80%, 60%, 92% and 83% respectively.

10.8. The unspectacular progress towards the goal of localisation in Botswana must be attributed primarily to the unavoidable lag between the development of education and the increased output of qualified manpower. Indeed, the priority which has been given to education has itself retarded localisation and created recruitment problems, since greatly increased numbers of Batswana who would otherwise be absorbed into the Public Service are now continuing with their formal education and training. Of the 693 vacancies which existed against established posts in the Public Service in January, 1968, some 480 vacancies occurred against posts requiring category III (i.e. Junior Certificate) qualifications.

10.9. The general expansion of Government services and the intensified development effort have also slowed down the pace of localisation. The understaffing of many sections of Government and the consequent pressures on officers

in post have made it difficult for local officers to be released for extra-mural training and have limited the possibilities of in-service training. Formal training facilities have also been lacking. To overcome this problem, a Civil Service Training Centre has been added to the Botswana Training Centre, and plans are being laid for the establishment of a School of Public Administration in Botswana, under the aegis of the University of Botswana, Lesotho and Swaziland.

10.10. The targets of the Botswana Government with regard to the localisation of the Public Service remain those established at the time of independence. Education planning has been geared to achieve internal self-sufficiency in high-level manpower by 1990. All posts in the Public Service will be localised well before that date. The combination of a steadily growing out-turn of Batswana graduates and the further training of experienced local officers will enable all posts of a non-specialised administrative nature to be localised by 1972. Five of the eight Ministries will have local Permanent Secretaries by the end of 1968. The Permanent Secretary in the President's Office, who is also Head of the Public Service, is already a citizen of Botswana. Professional, scientific and higher technical posts will inevitably be localised more slowly but all junior technical, clerical and secretarial posts should be occupied by local officers by the end of the Plan period.

10.11. In order to achieve these targets, a concerted training effort will be needed in every Ministry and Department within the framework of staff development plans. In addition to the institutionalised training which is undertaken, for example, by the Police for police recruits, by the Agriculture and Veterinary Departments for their junior staff, by the Department of Medical Services for midwives, nurses and medical aides, and by the Education Department for primary school teachers, numerous courses will be run at the Botswana Training Centre to assist with the implementation of Ministerial and Departmental staff development plans.

10.12. During the Plan period, the Botswana Government will also seek to introduce certain

changes in the structure of Public Service salaries. Numerous anomalies persist, many of them inherited from colonial times. It will be necessary to remove the discrepancies between the salary structure of the teaching service and that of the Public Service by lowering the entry points of graduate recruits to the Public Service to a more realistic level; this action would reduce the large differential between the emoluments of qualified teachers and those of officers in the Central Government. It is likely that graduate teachers will continue to seek employment in the Public Service. Although their appointments to posts in the Central Government would hasten the localisation of the Public Service, it will be necessary for some time to seek additional expatriates to man the teaching service. Further reforms affecting the removal of subsidies to civil servants for housing and water are also required and will be introduced during the Plan period.

External Affairs:

10.13. On achieving independence the Government established a diplomatic corps, but it was unable, due to budgetary limitations, to open embassies in many of the world's capitals. Diplomatic missions were sent to Washington, London and Lusaka. The Botswana Ambassador to the United States is also the Government's Ambassador to the United Nations, and offices are maintained at Washington and New York. The Botswana High Commissioner in London is accredited to a number of European countries, while the Botswana High Commissioner in Zambia also acts as Botswana's roving ambassador in Africa. No further expansions in the diplomatic corps are envisaged during the Plan period.

Information and Broadcasting:

10.14. The Information Services Branch has officers stationed in six districts - at Kanye, Lobatsi, Mochudi, Mahalapye, Serowe and Francistown. The South East District is covered by staff from headquarters in Gaborone. The Information Department produces a daily newsletter, of which 5,500 copies in English and

2,500 copies in Setswana are distributed throughout the country each day, and a monthly magazine, Kutlwano, which has articles in both languages.

10.15. The main objectives of the Branch during the next five years are:-

- (a) to station more field officers in the more densely populated areas of Eastern Botswana and in the four districts where there are no Information Officers at present, in order to increase the flow of news into the headquarters and the distribution of information in the country;
- (b) to train local staff in all aspects of the work of the Branch;
- (c) to establish a photographic and visual aides section to serve all Government Departments and diplomatic missions abroad.

10.16. Although Botswana cannot afford a lavish information service, it is vital that the people of Botswana should be well acquainted with the policies, objectives and programmes of their Government. As approximately 75% of the population is illiterate, the only practical means of mass communication is through the medium of radio. Radio Botswana presently broadcasts for 49 hours each week. There is already considerable evidence that its programmes, in English and Setswana, have played an important part in mobilising the people towards self-help efforts and creating a strong sense of national identity.

10.17. In addition to regular news, music and discussion programmes, most of which are produced locally, Radio Botswana also serves as an important vehicle for two special projects. The Agricultural Broadcasting Service is a relatively inexpensive method of disseminating agricultural marketing information and serves as an adjunct to agricultural extension work. Funds donated by the United Kingdom Freedom from Hunger Campaign Committee have enabled the Government to purchase 1,000 transistor sets which have been distributed mainly to Agricultural

Demonstrators and primary schools throughout the country. The 10KW transmitter at Gaborone, brought into operation in June, 1966 reaches all parts of Botswana.

10.18. At present only 2½ hours of broadcasting are devoted weekly to agricultural topics. Further field work will be necessary to devise the most satisfactory methods of communicating vital agricultural information to the nation's farmers. A special programme unit of the Agriculture Department has been created to produce at least 14 hours of agricultural broadcasting a week.

10.19. The second special broadcasting service of Radio Botswana has been developed to supplement and improve primary school teaching. The schools' broadcasting unit in the Department of Education is now providing 8 hours of school broadcasting each week and a target of 16 hours per week will be achieved by the end of 1968. By 1970 this service will have been expanded to 30 hours a week.

10.20. The Government is considering the possibility of selling time on radio Botswana to commercial advertisers to defray the recurrent costs of maintaining the radio station.

10.21. In addition to its popular and successful broadcasting service, Government publishes a daily newsletter and monthly magazine. While these publications are partial substitutes for a national newspaper and provide a useful outlet for information on developments and events in Botswana, the Government strongly favours the establishment of a non-governmental daily or weekly newspaper and will take active steps to encourage this development.

10.22. The visual aids section of the Information Branch will provide a most needed service. It will be responsible for the production of posters, displays, teaching and demonstration aids, brochures and photographic materials.

Police:

10.23. Botswana is one of the few developing countries which has no standing military establishment. It therefore falls on the Botswana Police Force not only to uphold law and order

in the country but also to preserve the security of the nation. During the two years following the achievement of internal self-government in 1965, it was necessary to strengthen the Police Force to enable it to discharge the increased responsibilities which were placed on it with the withdrawal of the protection of the colonial power on independence. Some 300 posts were added to the Police establishment during this period, raising the strength of the Force to 977 posts by 1967. The major part of this increase accrued to the Police Mobile Unit.

10.24. The Botswana Government is acutely aware of the primacy of the need to preserve the peace and to protect the rights and property of all members of the community. Having expanded its police force to guard against internal disorders and such external threats to Botswana's security as the country can realistically afford to combat from its own resources, the Government will turn its attention during the Plan period to expanding the coverage of the Police Force in the performance of its routine law enforcement functions.

10.25. There are a number of special problems confronting law enforcement agencies in Botswana, namely the seasonal movements of population to and from the urban centres, the dispersed disposition of the population, the length of Botswana's borders and the residence in Botswana of numbers of refugees. To enable the Police Force to operate effectively, it will be necessary, during the next five years, to open six new stations and to rebuild another seven stations which are either dilapidated or sub-standard. Of these thirteen stations, one at Thamaga is required to serve a major population area in which important developments are occurring; seven stations (namely - Seronga, Pandamatenga, Bokspits, Kalkfontein, Nojane, Kachikau, Olifants Drift and Werda) will be located in remote border areas serving small and isolated settlements; and the remaining four stations at Nata, Rakops, Bobonong and Tshane will be constructed in the interior of the country, at important focal points. Housing will be required for Police Force personnel at each of these stations. In addition, the Police Quartermaster's

Store in Gaberones will be enlarged, and new living quarters and lecture rooms will be constructed at the Police Training Depot, which is also situated at the capital.

Prisons:

10.26. By the end of 1967 there was permanent accommodation for 718 prisoners in Botswana. Although the incidence of crime is relatively low, it is estimated that prison facilities will have to be expanded to accommodate 1,000 prisoners by the end of the Plan period. Since the prison population cannot be evenly distributed among the prison facilities available due to the prohibitive cost of transferring prisoners from outlying areas to the larger prisons, some prisons are under-established while others are frequently grossly overcrowded.

10.27. It is very desirable not only to alleviate overcrowding in prisons but also to ensure that stock thieves and other unsophisticated lawbreakers do not come into contact with hardened criminals. The most economical way of achieving these objects is by establishing prison camps for first offenders. The capital costs of these camps would be roughly half that of providing equivalent conventional facilities. Recurrent costs would also be lower. The camps will be sited either adjacent to Agricultural Department farms or in other areas where crops can be grown for sale. In addition funds will be required to finance workshops and welfare facilities; the former will be designed to assist in the rehabilitation of the prisoners through the acquisition of simple skills and at the same time enable productive work to be done.

Statistics:

10.28. A small statistics section, the Central Statistics Office, has been established as an integral part of the Ministry of Development Planning. In addition statistics' units have been created in the Departments of Education, Agriculture and Veterinary Services. These agencies have already made some progress in the vital work of compiling reliable data on which planning of all kinds so heavily relies. A Statistical Abstract is produced annually.

10.29. Apart from the routine collection of trade, price, banking, agricultural and educational statistics, the CSO will be engaged during the Plan period in an industrial production census, a sample agricultural survey, a consumer expenditure survey and a manpower survey. A programme of training for local Statistical Officers and Statistical Assistants has been introduced to ensure that basic statistical data are collected and processed efficiently.

Labour Branch:

10.30. Labour in Botswana is not highly organised and, because of the pool of under-employed persons in the rural sector ready to accept work at very low wages, there is a continuing need to protect the interests of the workers in all their relations with employers. In order to promote good labour relations, it is intended to foster both employer and employee organisations through which disputes may be settled on an equitable basis. Government action is required to guide the respective parties in learning to work together towards amicable agreements; this requires the creation of a suitable legal framework. To this end an Industrial Conciliation Act will be presented to the National Assembly during 1968.

10.31. Labour inspections are carried out with a view to studying wages paid, and conditions of service in general in all industrial undertakings so that fair and practicable minimum standards of protection from unduly low wages, excessive working hours, and conditions of service which are hazardous to health and safety may be established, if necessary, by law.

10.32. With the growth of industry employers and workers must be safety conscious. Basic legislation will be devised to give the Labour Branch broad authority to establish and enforce minimum safety and health standards wherever workers are employed. All employers will be required to keep records and reports on all disabling injuries.

10.33. In view of the anticipated mining and industrial developments which will result in a tremendous increase in the present wage earning

population in Botswana, provision is made in this Plan for the expansion of the Labour Branch. Additional officers must be recruited who will need professional training in the various aspects of Labour Administration before they are sent to the present and future industrial areas.

Printing:

10.34. The Government Printer in Gaborone has the equipment and capacity to satisfy most of the Government's printing requirements. A litho printing press has been installed and the printing building will be expanded during 1968 to provide adequate floor space for plant and storage needs. It is anticipated that the work load of the Government Printer will increase rapidly during the Plan period and it will be necessary to instal additional composing, binding, and printing equipment.

Local Government Administration:

10.35. The history of local government in Botswana has until recently been almost entirely associated with the Chieftainship. Chiefs were both the national and local leaders. As the tribal organizations became more complex and assumed new functions which were not simply aspects of tribal customary law, and as the needs of a settled community expanded, the Chiefs acquired additional responsibilities which in a society less firmly based on tradition and tribalism would long before have passed to non-traditional, specially-created organs of local government.

10.36. Although tribal councils functioned effectively in some districts, the system essentially remained one of personal rule by the Chief closely associated with and aided by the Central Government, acting through District Commissioners. It became apparent that Botswana's rapid constitutional advance at the centre should be matched by an efficient and democratic system of local government.

10.37. In November, 1964, the Legislative Assembly agreed to the reform and reorganisation of local government. The policy was, in essence, to set up elected Councils with executive powers, creating a non-racial, representative, and respon-

sible system of local government as a natural development from tribal administration. Botswana was divided into nine District Council areas and three Town Council Areas. Following the local government elections in June 1966, based on universal adult suffrage, the new Councils came into being on 1st July, 1966. Elected Councillors form the substantial majority in all Councils, but provision exists for the appointment of some nominated members.

10.38. The position has therefore been reached where in each area of the country there is a democratically elected body with important local government functions and a vested interest in local development, able to contribute towards the general progress of the country by its ability to mobilise self-help in its various forms and to administer local projects of economic and social betterment.

10.39. The main functions of the local authorities are as follows:-

- (a) Primary Education - Over 1,700 teachers are employed by Councils in 242 primary schools having a total enrolment of 70,000 pupils. A standard fee of R6 per annum is levied, but provision is made for fee-remissions in cases of need.
- (b) Water Supplies - Rural boreholes are maintained by local authorities who employ pumping staff. District and Town Councils are also responsible for urban water supplies.
- (c) Communications - Local authorities have responsibility for the maintenance of district and township roads, and undertake new road building by eliciting self-help efforts.
- (d) Health and Sanitation - District and Town Councils will increasingly be required to expand their activities in the field of district health by organising clinics and providing sanitation services.
- (e) Housing - Town Councils administer low-cost housing schemes and have plans to increase the number of units available for lease.

- (f) Recreation and Welfare – Sporting facilities are among the projects which local authorities seek to implement. Community centres are supported by local governments which also provide relief for the destitute.

10.40. The greatest difficulty facing the majority of Councils is the lack of trained staff at all levels. Although salary scales are now broadly comparable with those of the Government service, qualified and skilled personnel continue to find the Public Service more attractive. Councils thus have to rely heavily on the less qualified staff inherited from the tribal administrations. Training courses have been organized for local government staff at Gaberones and in-service training is conducted by a Local Government Training Officer.

10.41. In spite of these difficulties, the fiscal position of the Councils is improving steadily. In 1967 Council revenues totalled R1,771,000 of the which the Local Government Tax, introduced in 1966 to replace the African Basic Tax, African Graded Tax and Non-African Personal Tax, produced some R810,000. The other main sources of revenue were school fees, R418,000, and Government grants, R303,000. Councils spent R1.6 million in 1967, the greatest proportion being devoted to primary education (R1.1 million).

10.42. The Government recognizes the necessity of maintaining effective and responsible local government, and, wherever possible, works through and consults Local Councils. The Councils in turn have responded well to the needs of the country. The willingness of Councils to make sacrifices in the interests of national economic advancement was never more clearly displayed than in 1967 when all District Councils voluntarily ceded the mineral rights formerly held by the tribes to the State. All Councils have also formulated their own development plans,

proposing projects to be implemented during the next five years. Many of the priority projects will be supported by the Government on a matching rand-for-rand basis, and the Government will also assist Councils in the procurement of funds and equipment for their development schemes. Local Council Development Plans are outlined in Chapter XI.

Law Reform:

10.43. Government is aware of the need to keep the private law of Botswana, Roman/Dutch as well as customary, in a healthy condition and in accordance with modern needs, circumstances and thought. To facilitate the public discussion of possible measures of reform the National Assembly recently appointed a select committee to consider proposals for law reform and advise on them to the National Assembly. Government will consult this select committee on its own proposals for law reform and take account of its report to the National Assembly on matters raised by Members of Parliament or members of the public.

10.44. Many aspects of the lives of the majority of the people of Botswana are regulated by customary law administered by traditional courts. This law is unwritten and non-professionalised and, in the past, derived its strength from shared knowledge of its principles and shared responsibility for its administration. It is clear, however, that the development of Botswana requires specialisation in this field as in many others, and Government is at present undertaking a survey of customary courts with a view to drawing up proposals for their modernisation and the proper training of personnel. At the same time an attempt is being made to record the customary law, and thereby achieve greater certainty as to its content and provide a basis for the introduction of statutory reforms, including the elimination of unnecessary local variations.

Chapter XI—Regional Development

11.1. Nine District Councils and three Town Councils were created in July, 1966. In pursuance of Government policy to encourage Local Councils to undertake development of their own areas, District and Town Councils were asked to prepare five-year development plans covering the period 1968/69 to 1972/73. Broadly, Local Councils' development proposals in these plans cover primary education, development of water resources, health and sanitation measures, roads and community development projects such as the construction of classrooms, teachers' quarters, clinics, stock dams and roads. Table A below indicates the distribution of development expenditure.

11.2. The concern of the Local Councils for the improvement of social services at the local level is clearly reflected in their development plans and in their estimates of revenue and recurrent expenditure, summarised in Table B below. Primary education, for which District and Town Councils bear full responsibility, commands the highest priority in these plans.

11.3. In the 1967/68 fiscal year, out of a total estimated income of R1,771,568, Central Government grant-in-aid to Local Councils amounted to R303,026 or approximately 15% of their total revenue. During the 1968/69 fiscal year the grant-in-aid will total R366,264 out of a total estimated revenue of R1,988,378. In addition to these grants, Government has earmarked R25,000 of its development funds in 1968/69 as assistance to Local Councils. The grant will be tied to development projects and will be given on a rand-for-rand basis.

11.4. The ability of Central Government to continue to subsidise Local Councils is limited and it is noteworthy that many District Councils propose putting water on an economic basis by charging fees for both human and livestock consumption. The question as to how long Government should continue to subsidise communal boreholes will be reviewed in the course of the Plan.

Outline of Local Plans:

(a) Francistown Town Council:

11.5. Francistown is one of three major commercial towns in Botswana, the others being Gaborone and Lobatsi. With copper mining development at Selibe/Phikwe and Matsitama, Francistown is likely to develop into a hub of industrial and commercial activity. There is already a considerable demand for residential plots and industrial sites with consequential demand for services.

11.6. The Town Council's development proposals have recognised this and out of R168,000 development expenditure, R70,000 will be spent on electricity supply, R84,000 on water development, R15,000 on roads and the remainder on education, health services, local industry and community development. The development of water and power supplies has been planned on the assumption that these would be available from the proposed Shashi dam and power station by the end of the Plan period.

11.7. The development of Francistown has to some extent been impeded by the administration of the Tati Concession. Government's proposed action in this regard is explained in Chapter II. Steps will be taken to ensure that development takes place for the benefit of all.

(b) Gaborone Town Council:

11.8. Gaborone, the capital of Botswana, is also one of the three main commercial centres and it serves other population centres such as Mochudi, Molepolole, Ramoutsa and Tlokweng. The population at present is estimated at 18,000 and is expected to rise to 30,000 over the Plan period. The Town Council has made two major development proposals: housing and education. The other major proposals cover electricity and water supplies, and health and sanitation services. Funds will be provided by the Gaborone Water and Electricity Unit and the Central

Government, respectively. Finance is being provided for the establishment of a small abattoir for which there is an urgent need in view of the growth of the town.

11.9. The Central Government has in the past and will continue in the future to give considerable assistance to the Town Council in providing the basic infrastructure for the expansion of facilities in the capital – see Chapters III and VIII. Proceeds from the sale of land within the township will also be made available to finance the capital cost of basic services.

(c) Lobatsi Town Council:

11.10. With an estimated population of 9,000, Lobatsi is one of the three main commercial towns in Botswana. The Botswana Meat Commission abattoir and meat canning factory is located there; so, too, is the maize mill which supplies the whole of Botswana. As in its two sister towns, Francistown and Gaborone, there is a great housing shortage due to the influx of job seekers from surrounding areas. The Town Council's Five Year Plan lists education and low-cost housing as two top priorities and plans to spend R27,942 and R40,000 respectively in 1968/69 fiscal year. Other proposals include the development of light industrial sites, improvement of town water supplies, roads and streets and construction of a clinic in the high density area.

11.11. The major long-term obstacle to development is the shortage of an assured supply of water. The catchment area of the present dam will not be capable of meeting the anticipated demand after 1975 and there is no easily tapped alternative source. Development of industry should therefore take place whenever possible either in Gaborone or Francistown, where the water supply position is more favourable.

(d) Central District:

11.12. The Central District, covering an area of 56,070 square miles and the largest of the nine District Council areas, has the most ambitious development proposals. On education,

the Council proposes to spend a total of R160,000 in the 1968/69 period alone and a total of R630,800 over the whole Plan period. This proposal includes teachers' housing, expansion of the education department's local inspectorate, additional school equipment and assistance to the Farmers' Brigade. Other proposals involve the establishment of a road building unit, etc.

11.13. The advent of mining in the District (as foreseen in Chapter VII) will have a considerable financial impact on the area. Mining development will create a demand for many kinds of goods and services and it is expected that residents of the district will greatly benefit from these opportunities.

11.14. At Serowe, a Youth Development Association has been formed which runs youth brigades, enabling school leavers to acquire vocational training, as described in Chapter IX. A new secondary school is to be built in Tonota.

(e) Ghanzi District:

11.15. The Ghanzi District occupies 40,443 square miles on the western side of Botswana. It is a ranching area with freehold land extensively used for this purpose. In 1966 Ghanzi sent to the Botswana Meat Commission almost one-twelfth of the abattoirs throughput. The District Council's five year plan aims for improvements in four main areas: education, water supplies, communications and the ranching industry.

11.16. In education, although it is not expected that there will be any significant increase in the number of students, it will be necessary to improve and expand facilities at the existing schools in order to bring them up to an acceptable standard. Concerning water supplies, although the Council is not able to provide water in all locations, it will drill and equip boreholes in some of the larger villages and Ghanzi itself as well as for the Bushmen Settlement.

11.17. The Council also feels an urgent need for the improvement of communications, especially the Lobatsi-Ghanzi Road. This 400 mile

road is the major link to the eastern, populous region of the country and is also the cattle trek route to the abattoir. Consideration will need to be given during the Plan period to ways of improving communications with the remainder of Botswana. Central Government will assist by installing a radio telephone link with the main trunk system. It also intends to establish a Bushmen Settlement Scheme to help alleviate the serious problem caused by Bushmen squatters.

(f) Kgalagadi District:

11.18. The Kgalagadi District, the second largest after the Central District in terms of area, covers 55,000 square miles of sparsely populated grazing land in the extreme southern section of the country along the Molopo River. The freehold Molopo Farms, in a good ranching area, occupy 5% of the District but provide the major portion of the District Council's revenues. The development plans of the Council are necessarily severely limited by the lack of funds. With a small population and a low tax base it is impossible to provide many social services to the widely scattered villages in the District.

11.19. The two major efforts toward development will be through the expansion of the ranching areas, for which a settlement scheme is envisaged along the Molopo, and secondly the development of the Karakul sheep industry. Central Government will assist with both of these projects. An ecological survey of the Kalahari will provide information about proper stocking rates for the settlement scheme and a ram subsidy programme, similar to the present bull subsidy scheme, will provide high quality Karakul rams to assist in the development of this industry. In addition, Central Government will improve the road from Lobatsi to the Molopo farms and the Game Department will expand its activities in the area to protect the wildlife resources.

(g) Kgatleng District:

11.20. This district of 2,798 square miles was one of the most severely hit by the 1961-66 drought. In the past two years the cattle popula-

tion has made an encouraging recovery of 13%. With technical assistance from the Department of Veterinary Services the District Council intends to foster continued recovery of the Bakgatla cattle through the improvement and expansion of the Masama Livestock Development Centre which attempts to breed good Afrikaner bulls for sale to stockowners.

11.21. The largest portion of the Council's funds for development will be used for the expansion of the primary schools in the district. This will include erection of classrooms and water and latrine facilities at many schools. Also, additional staff, staff housing, desks and books will be necessary. In some of the larger villages the Council intends to provide improvements to the water supply and medical services through the establishment of clinics. Central Government's projects which affect the District include the provision of better water supplies at Mochudi and the expansion of the Molefi Secondary School.

(h) Kweneng District:

11.22. The Kweneng District, the fifth largest, covers 14,719 square miles. The largest portion of the Council's planned expenditure for development is for Primary Education. Although the plans call for "self-help" in the construction of the facilities for these schools, it will, nevertheless, be necessary to provide some capital assistance to individual communities. Also, the Council plans to erect a hostel at Letlhakeng which would be equipped to accommodate students from the remoter villages in the western part of the district. In addition, it is hoped that it will be possible to supply water to all of the main villages in the District either by means of boreholes or by small dams. However, Central Government will have to assist these projects because of the lack of funds at the District level.

11.23. The Central Government is already undertaking an intensive study of the feasibility of constructing a large dam capable of giving Molepolole an assured water supply. In addition, Central Government intends to expand the Kgari

Sechele Secondary School and to upgrade the main road from Gaberones to Molepolole by improvements to the worst sections. The Dam Construction Unit is responsible for a major land use planning exercise in the Metsemotlhaba catchment, which will result in the creation of many new watering points in the Kweneng District.

(i) Ngwaketse District:

11.24. This District, which is comprised of the Bangwaketse and the Barolong people, covers an area of 10,518 square miles and includes some of the best farming areas of Botswana in the southeast of the District. The population, mostly small farmers, totals some 90,000. As in most of the Districts, Primary Education has received the top priority. At present only about 60% of the classes have classrooms. The Council intends to rely on self-help labour to build more than 100 classrooms and keep the costs to a minimum.

11.25. The Council's Plan also places emphasis on water supplies, especially for Moshupa and Manyana; clinics or dispensaries, especially for Mathethe; and road improvements to link the larger villages with Kanye, the District Headquarters.

11.26. Central Government's Dam Construction Unit will complete numerous small dams in the Moshupa catchment area and a programme of land use planning should ensure the most efficient use of these dams. In addition, Government intends to expand Seepapitso Secondary School and improve the worst sections of the main road from Kanye to Lobatsi.

(j) North East:

11.27. The North East District, comprising most of what is commonly known as the Tati Territory, is 2,056 square miles in extent and in 1967 its population was estimated at 26,800. Reference to this concession has been made in Chapter II.

11.28. The Council has formulated a plan covering education, health and water services.

To keep the cost of the development programme within the financial means of the District Council, it is proposed to construct most of the classrooms, clinics and stock dams by self-help methods which have already proved successful on various projects. The District Council has also adopted a policy of giving assistance of a capital nature to local communities on a rand-for-rand basis.

11.29. The District is partly dependent on a Government subvention and this assistance will continue to be given during the Plan period. The development of Francistown township will create new employment opportunities for the residents of the North East District and the general prosperity of this part of Botswana which will arise from the development of mining should have a significant impact on the District.

(k) North West District:

11.30. The North West District covers an area of 50,212 square miles. In 1967 the population was estimated at 51,800. The District Plan makes provision for education, development of water resources and health services. Recognising the importance of improving the quality of primary education the Plan envisages extensions to 20 of the 22 existing primary schools. On health services, the Plan proposes to construct clinics or dispensaries in outlying districts to be visited periodically by staff from existing centres.

11.31. A new main road linking Maun to Francistown has opened the way for the development of Ngamiland. This District has fine reserves of game and is rapidly becoming a world famous game viewing area. The safari business is well developed and brings in considerable revenues. The long term potential for irrigation development using the waters of the Okavango is considerable. During the Plan period the Government will be expanding the activities of the Game Department in this District and will carry out detailed hydrological and irrigation investigations.

(I) South East District:

11.32. The South East is the smallest District with an area of 785 square miles and an estimated population of 21,600. Comprising the Batlokwa and the Bamalete reserves, and some privately owned farms, it is probably the poorest district in the territory. There are no industries of any sort and land is too limited for any large scale ranching or crop raising.

11.33. The District Plan covers only education and development of water resources. The aim of the educational proposals is to equip the inhabitants of the District with adequate basic primary education so as to enable them to compete for entrance in outside educational institutions. On the question of water supplies, the District benefits from water from Mogobane, Nuane and Gaberones dams, which are situated well within the District.

TABLE A

LOCAL COUNCILS' DEVELOPMENT PLANS 1968/73
Pattern of Development Expenditure in 1968/69

District	Edu- cation	Health Services	Water Resour- ces	Roads & Drainage	Tele- commu- nica- tions	Housing	Local Indus- try & Com- merce	Communi- ty Dev.	General Deve- lop- ment	Electri- city	Total
Central	160,000	5,000	25,000	-	-	-	16,000	16,850	4,000	-	226,850
Francistown	8,000	7,600	64,000	15,000	-	-	2,000	1,000	-	70,000	168,600
Gaberones	35,000	228,000	169,000	95,000	42,835	350,000	-	100,000	-	521,000	1,540,835
Ghanzi	29,970	9,308	24,000	592,335	-	17,800	-	-	19,364	-	692,775
Kgalagadi	ESTIMATES NOT YET SUPPLIED										
Kweneng	14,984	5,500	10,000	-	-	6,000	-	700	-	-	37,184
Kgatleng	10,526	400	7,000	400	-	3,608	-	-	-	-	21,934
Lobatsi	221,942	57,600	45,000	229,000	105,500	30,000	2,750	-	-	10,000	701,792
Ngwaketse	ESTIMATES NOT YET SUPPLIED										
North East	36,000	400	3,400	-	-	-	-	-	-	-	39,800
North West	6,976	230	2,762	-	-	-	-	-	-	-	9,968
South East	6,000	-	2,000	-	-	-	-	-	-	-	8,000
	529,398	314,036	352,162	931,735	148,335	407,408	21,750	118,350	23,364	601,000	3,447,538

TABLE B

LOCAL COUNCILS' DEVELOPMENT PLANS 1968/73

Recurrent Budget: Expenditure Pattern and Source of Income 1968/69 Estimates

District	EXPENDITURE				INCOME				
	Finance & General Purposes	Education	Development Works, Health & Housing	Totals	Finance & General Purposes	Education	Development Works, Health & Housing	Central Government Grants	Totals
Central	95,205	444,020	54,171	593,396	366,455	174,350	—	115,490	656,295
Francistown	35,271	72,101	13,715	121,087	1,570	19,064	138,564	14,396	173,594
Gaborone	46,697	68,305	52,491	167,493	112,300	21,050	—	9,667	143,017
Ghanzi	10,032	28,670	—	38,702	15,970	5,700	—	17,803	39,473
Kgalagadi	19,668	40,334	—	60,002	28,490	10,500	—	21,910	60,900
Kweneng	26,587	103,363	31,972	161,922	96,750	46,200	—	32,637	175,587
Kgatleng	20,466	78,073	3,403	101,942	55,600	32,310	—	24,620	112,530
Lobatsi	24,829	82,964	19,500	127,293	76,850	21,140	—	13,110	111,100
Ngwaketse	24,926	130,653	9,946	165,525	89,630	45,450	—	44,435	179,515
North East	8,707	70,583	7,470	86,760	29,320	32,770	—	28,127	90,217
North West	43,940	80,454	5,835	130,229	110,785	24,030	—	21,400	156,215
South East	9,386	47,845	77,430	134,661	27,426	17,540	—	22,669	67,635
	365,714	1,247,365	275,933	1,889,012	1,011,146	450,104	138,564	366,264	1,966,078

Chapter XII—Finance for Development

Financial Policy:

12.1. For the past thirteen years Botswana has been receiving an annual grant-in-aid to balance its recurrent ordinary budget. In 1967/68 the grant-in-aid totalled R6,200,000. In addition the country received development grants amounting to some R3,458,000. Revenues raised have been sufficient to meet less than half the annual recurrent expenditures.

12.2. Botswana is in the position of having achieved political independence while having little prospect of attaining economic independence for some years to come. Even with the most austere taxation the ordinary budget could only be balanced by a major retrenchment of services and by bringing all development to a halt.

12.3. The Government is thus faced with two alternatives; either to seek from donor countries budgetary aid not only to enable existing services to be maintained, but also to meet the recurrent costs generated by the implementation of development projects, or to reconcile itself to the prospect of prolonged stagnation at subsistence level. An analysis of the prospects for development indicates that Botswana has the potential to achieve budgetary self-sufficiency under conditions of growth provided that the rate of development is much accelerated. The implementation of the development programme described in this Plan will be a big step towards achieving this objective.

12.4. A development plan, if it is to be practicable, must be formulated within the limits of available resources, human, physical and financial. Since Botswana is almost entirely dependent on donor countries for finance for the Plan, the size of the development programme proposed cannot be determined simply by consideration of the availability of finance. The reason for this is obvious. Until now most outside financial assistance has come from the United Kingdom; it is now anticipated that many other countries will make offers of assistance, but at the present juncture the extent of this assistance is not

known. It is indeed hoped that the presentation of a carefully prepared development plan will encourage donor countries to provide finance for it. Efforts will be made to raise finance internally to be applied to projects, which can bear normal commercial interest rates and repayment terms, mainly through the medium of the National Development Bank. The measures proposed are described below.

12.5. The scope of the present Plan has been guided by the range of development projects capable of being implemented within the next two years. The choice of projects to be included has been governed by the policies and priorities set out in Chapter II. The size of the development programme has been defined by consideration of the available trained manpower and the physical capacity of the economy to undertake immediate development.

12.6. Since a long term objective is budgetary self-sufficiency, emphasis has been given to infrastructural development which will enable productive investment to take place. In the preparation of estimates of expenditure the greatest austerity has been observed and nothing inessential for the implementation of the development programme has been included.

Projections of Local Savings:

12.7. There is considerable scope for raising development finance within Botswana by the mobilisation of local savings. At present savings in Botswana are either deposited with the Post Office Savings Bank or with the commercial banks. Recently a number of Thrift and Loan Societies have been started and these will be fostered by the Department of Co-operative Development. However, both the Post Office and the Thrift and Loan Societies commonly deposit their surpluses with the commercial banks. The commercial banks keep their surpluses in South Africa. Botswana is, therefore, in this respect a creditor nation, a role she can ill afford to play at this juncture in her development.

12.8. The situation is well illustrated by the most recent banking statistics available which described the position as at 30th September, 1967. At that date R12,249,000 was deposited with the commercial banks; advances outstanding to residents, organisations and institutions in Botswana totalled R5,905,000. Apart from R292,000 held as notes and coins, it would appear that the remainder, amounting to approximately 50% of deposits were held outside Botswana. At the same time the country is in urgent need of finance for telecommunications, power, water supplies and housing, all of which are sound loan-worthy projects. More credit on easier terms also needs to be made available to commerce and industry to stimulate the private sector.

12.9. In addition to the above, many of the wealthier residents hold investments in South Africa in building societies, Government stock and in company shares. It is evident that considerable savings are being generated within Botswana and these must be used to develop this country, not others.

12.10. Immediate consideration will be given to launching either Government or National Development Bank bonds, to raising a Government loan and issuing Treasury Bills. The objective will be to tap both local long term funds and short term liquidity. It should also be possible, due to a favourable double taxation agreement, to attract investment from South African residents. In studying the various alternatives, due weight will be given to the cost of administering any scheme.

12.11. There is a need for an institution through which local savings may be invested in mortgage finance. Consideration is being given to the formation of a local building society. It is hoped to obtain assistance for this endeavour from established building societies abroad. Consideration will also be given to deploying for national development such other funds (e.g. provident funds, etc.) as are controlled by the Botswana Government, to the extent consistent with sound financial management.

Projections of Local Revenue:

12.12. An important feature of Botswana's system of public finance derives from its membership of the Southern African Customs Union and the Rand Currency Area, together with South Africa, South West Africa, Lesotho and Swaziland. The Government has, as a result, no control over customs and excise rates which are commonly the major source of government revenue in developing countries and powerful instruments of financial policy. Membership of the Rand Currency Area means no income accrues to the country from the investment of currency reserves and no direct investment attributable to the fiduciary element in the currency.

12.13. Under the terms of the Customs Union Agreement Botswana receives approximately 0.3% of the total customs and excise duty (excluding that on South African manufactured wines, spirits, and beer) collected within the Customs Area. It is anticipated that, if this arrangement is maintained, custom revenue received by Botswana will rise by a modest 5% p.a. reflecting the slow growth in customs revenue normally associated with a more advanced economy. This source of revenue represents only 20% of total internal revenue; in other developing countries it is normal to derive over 50% of government revenue from this source.

12.14. Table V gives details of the projected revenues from internal sources for the period April, 1968 to March, 1973. For most of the items the estimates are self-explanatory. An important source of revenue is the special turnover tax obtained from the operations of the Botswana Meat Commission; the size of this item is dependent on the throughput of the abattoir and this in turn will depend on the climatic conditions. The size of the national herd has been greatly reduced by the recent drought and as a result revenue is anticipated to fall from R734,000 in 1966/67 to R400,000 in 1969/70. Thereafter there is likely to be a slow recovery.

12.15. During the five year period 1968/73 it is estimated that revenue from internal sources will rise from R5.8 million to R9.2 million.

giving an annual increase of over 10% p.a. Most of the development expenditure will have little immediate effect on the growth of Government revenue; the benefit of Government investment over the next five years will accrue in the following decade. For example capital spent on the Shashi Complex will not begin to yield direct revenue until the early 1970's, while investment in secondary schools will take even longer to mature.

12.16. It is recognised that Botswana cannot expect other countries to make any financial sacrifice for her unless she herself contributes the most possible towards development. The Government proposes to seek new ways of raising additional internal revenue. Fiscal policy, however, must never be considered simply from the point of view of raising revenue for the Exchequer. This is particularly true in the case of Botswana which has almost no possibility of using monetary controls to guide economic development. Fiscal policy must therefore be used consciously as a weapon of Government policy to stimulate and direct the economy. Fiscal incentives are a relative matter and Botswana's "open" economy is greatly affected by the rates of taxation pertaining in the Republic of South Africa. Botswana must compete with South Africa for private investment essential for her development and she simply cannot afford to ignore the disincentives that would result from an unfavourable differential in the rates of taxation.

12.17. The Government considers that a number of changes are desirable to increase incentives for new investment without decreasing overall revenue. Furthermore it is proposed to raise over R100,000 next year by the imposition of additional taxation of the type which does not act as a disincentive to investment.

12.18. An important economy could be achieved by discontinuing the subsidies on water and housing provided to civil servants. The Government intends that these should be progressively phased out, and that local officials should be encouraged to purchase their own houses through a special home ownership scheme.

Finance from External Sources:

12.19. Table VI shows finance from external sources which has either been received or is under negotiation both for the recurrent budget and for development.

12.20. The United Kingdom Government has agreed to provide a subvention for the recurrent Ordinary Budget (1968/69) totalling R6.1 million; in addition a British development grant of R2.1 million has been promised. It has also been agreed that aid amounting to R8.4 million will be made available by the United Kingdom in the 1969/70 financial year. From these figures it is evident that the country is financially dependent to a very great extent on U.K. aid.

12.21. Two large schemes – the Pre-Investment Survey of Utilities for Mining Development and the Surveys and Training for the Development of Water Resources and Agricultural Production – are partly financed by the United Nations Special Fund; the counterpart funds for the latter are being shared by the Danish and Swedish Governments. The Swedish International Development Authority has also provided a grant for the construction of a new Teacher Training College at Francistown which will be completed during 1968. A contribution to this project has also been made by the United States Government.

12.22. In the past the Freedom from Hunger Campaign Committee (U.K.) and the Oxford Committee for Famine Relief have provided considerable financial assistance, mainly in the agricultural sector. Schemes which these two organisations have agreed to finance during the first years of the Plan period are shown in Table VI.

National Development Bank:

12.23. Reference has already been made at several points in this Plan to the role of the National Development Bank in promoting agricultural, commercial and industrial activities by offering special credit facilities. The British Economic Survey Mission (1965) observed that "the activities of the commercial banks are regu-

lated in general terms by the financial and credit policies adopted by the Government of the Republic of South Africa. At present the credit situation is so tight that it is difficult if not impossible to secure credit through the banking system for projects in Bechuanaland". This situation continues to exist, and it is therefore vital for Botswana to have an effective national financial institution through which Government may encourage and attract investment and guide development.

12.24. Government is aware that the National Development Bank is limited by its small staff which prevents it from taking the initiative on projects and providing entrepreneurial skills where necessary. To meet this need a National Development Corporation is being actively considered, as indicated in Chapter VI. Nevertheless, it is clear that there is a continuing and increasing need for an institution such as the National Development Bank with additional staff and additional capital.

12.25. In determining its policy towards the Bank, the Government has benefited from the advice of United Nations Credit Adviser, Mr. W.N. Spall. Among his recommendations, which the Government has accepted, are the following:

- (a) the Bank must adopt a policy which reflects the policies and development priorities of Government;
- (b) the scope of the Bank must embrace loans to agriculture, trade, industry and housing;
- (c) emphasis should be placed on loans to small farmers and on the acceptance of more unorthodox security, such as character loans;

(d) the Bank should be regarded by Government as the central agency for the issue of credit, and as far as possible all Government credit should be channelled through this institution;

(e) loans should, as far as possible, be issued in kind and not in cash. The Bank should pay for goods or services supplied to borrowers, who should handle as little cash as possible;

(f) one of the best and cheapest methods for the Bank to issue a large number of small loans is through the medium of properly organised and controlled co-operative societies. Co-operative credit should therefore be encouraged.

12.26. In addition to its role in agriculture, commerce and industry, it is considered that the NDB should provide housing finance. At present both Central Government and Local Governments are facing very substantial demands for housing. This burden siphons off funds that are desperately needed in other, more productive, projects. The possibility of establishing a Home Ownership Scheme or a Housing Finance Corporation is under serious study as outlined in Chapter VIII. If either of these institutions were established in Botswana, it is anticipated that they would have a very beneficial effect by releasing large amounts of Government funds invested in housing. However, such institutions will, themselves, require substantial investments to be channelled in the first instance through the National Development Bank, and it is for this reason that considerable funds are to be sought by the NDB for housing.

12.27. A summary of the projected capital requirements of the National Development Bank is given below:

CAPITAL REQUIREMENTS OF THE NATIONAL DEVELOPMENT BANK

(R)	1968/69	1969/70	1970/71	1971/72	1972/73
Boreholes	50,000	50,000	75,000	75,000	75,000
Agricultural Medium Term Credit	40,000	50,000	60,000	70,000	80,000
Seasonal Agricultural Credit	—	—	25,000	50,000	75,000
Co-operatives	—	50,000	50,000	75,000	75,000
Commerce and Industry	—	250,000	300,000	300,000	300,000
Low Cost Housing	300,000	300,000	300,000	300,000	300,000
Mortgage Finance Housing	250,000	300,000	300,000	300,000	300,000
	640,000	1,000,000	1,110,000	1,170,000	1,205,000

Public Expenditure Projections:

12.28. Estimates of recurrent expenditure to maintain existing services and of the recurrent expenditure which will be generated by the implementation of development projects are given in Tables VII and VIII. The former includes provision for some expansion in the case of those departments which would otherwise be unable to continue to maintain the present standard of service. An annual increase of between 3% and 5% has been allowed in most instances.

12.29. A summary of capital expenditure on development projects by departments is given in Table IX. The details are set out in Table XIII. The definition of capital expenditure used covers all expenditure relating to the planning and implementation of a project (whether the funds are spent on buildings, plant equipment or staff) but excludes any continuing recurrent commitment which will result from the implementation of the project. For example, all expenditure on a survey, whatever is involved, is categorised as "capital" whilst for a project such as the construction of a school, the running and maintenance costs are debited to the recurrent budget.

12.30. In this Plan only those projects to be started in the period 1968/70 have been specified. For these projects the phasing of expenditure over the five year period 1968/73 is given. The overall level of capital expenditure over the next five years is projected, including an unspecified item of R6 million for the years 1970 to 1973.

Financial Summary:

12.31. A summary of the projections of revenue and expenditure is given in Table XII. It will be noted that recurrent (Ordinary Budget) expenditure increases at just under 10% p.a., which is a moderate rate of growth in view of the high level of investment envisaged. Revenue from internal sources grows slightly faster, such that the revenue to be sought from external sources (i.e. U.K. Government grant-in-aid) as a proportion of total expenditure shows a modest decline. After 1972/73 when revenues from mining start to accrue it is anticipated that this decline will become much more rapid. It is to be hoped that during the decade 1970/80 the need for budgetary grants-in-aid may be progressively removed.

12.32. The shortfall on the capital budget indicates that the development programme remains largely unfinanced. A part of the shortfall will be met by the mobilisation of local resources, for example, by investing Post Office Savings Bank funds in the National Development Bank. The commercial banks will be expected to contribute considerably larger amounts for development than in the past. The remainder, involving substantial sums, will be sought from external sources.

TABLE V - ESTIMATED REVENUE FROM INTERNAL SOURCES (R'000)

Source	1968/69	1969/70	1970/71	1971/72	1972/73	Explanation
Customs Duties	500	525	551	579	608	Increasing at 5% p.a.
Duty on South African spirits, beer and wines	450	504	564	632	707	Increasing at 12% p.a.
Excise Duties	507	558	614	675	743	Increasing at 10% p.a.
Income Tax	1 518	1 515	1 670	1 875	2 125	Related to abattoir throughput
Export Duties	243	250	266	280	300	Various
Licences and Other Taxes	388	420	455	491	530	Increasing at 8% p.a.
Earnings of Departments	366	395	427	461	498	Increasing at 8% p.a.
Posts and Telegraphs	734	918	1 198	1 534	1 974	Related to 12% growth in telephone services
Reimbursements	89	100	100	100	100	Various
Government Property	782	837	879	923	969	Increasing at 5% p.a.
Miscellaneous	255	300	350	400	450	Various
Additional New Taxes	-	100	125	150	175	Various
Total	5 830	6 422	7 199	8 100	9 179	

TABLE VI - ESTIMATED REVENUE FROM EXTERNAL SOURCES IN SIGHT R'000

RECURRENT BUDGET						
SOURCE	USE	1968/69	1969/70	1970/71	1971/72	1972/73
U.K. Grant in Aid	To meet Budget Deficit	6 102	6 102	-	-	-
DEVELOPMENT BUDGET						
U.K. Government	Various	2 108	2 300	-	-	-
Danish Government	Surveys & Training	42	40	38	28	-
S.I.D.A.	Surveys & Training	103	137	137	34	-
O.X.F.A.M.	Irrigation Schemes & Demonstration Ranches	44	15	16	-	-
U.K.F.F.H.C.	Animal Husbandry & Grain Storage	138	64	11	-	-
O.D.M. Research	Agricultural Research	61	26	-	-	-
Barclays Dev. Corp.	Maun Electrification	32	-	-	-	-
Netherlands Government	Moeding College	88	-	-	-	-
U.S. Government	Moeding College & "Francistown" T.T.C.	75	-	-	-	-
Swedish Government	Francistown T.T.C.	40	-	-	-	-
TOTAL		2 731	2 582	202	60	-
GRAND TOTAL		8 833	8 684	202	60	-

TABLE VII: RECURRENT EXPENDITURE TO MAINTAIN EXISTING SERVICES (R'000)

	1968/69	1969/70	1970/71	1971/72	1972/73
State President, State House	285	299	314	330	346
Embassies	196	206	216	227	238
Police	948	995	1,045	1,097	1,152
National Assembly, House of Chiefs	69	71	73	75	78
Ministry of Finance	239	251	263	277	291
Accountant General	419	440	462	485	509
Commissioner of Revenue	59	62	65	68	72
Central Stores	60	63	66	69	73
Pensions and Gratuities (and Compensation)	699	819	904	996	1,100
Public Debt	741	926	988	1,100	1,200
Ministry of Home Affairs	67	70	74	78	81
Immigration	54	57	60	63	66
Broadcasting, Information Services	122	128	135	141	148
Prisons	147	154	162	170	179
National Library	17	18	19	20	21
Ministry of Agriculture (inc. Land Settlement)	43	45	47	50	52
Department of Agriculture	842	884	928	975	1,023
Department of Veterinary Services	865	908	954	1,001	1,051
Forests	33	35	36	38	40
Tsetse Fly Control	195	201	207	213	219
Co-operative Societies	45	47	50	52	55
Ministry of Education, Health and Labour	35	37	39	41	43
Education	804	844	886	931	977
Medical	780	819	860	908	948
Labour	12	13	13	14	15
Botswana Training Centre	107	112	118	124	130
Ministry of Commerce, Industry & Water Affairs	32	34	35	37	39
Game	71	75	78	82	86
Government Printer	111	117	122	128	135
Geological Survey	212	223	234	245	258
Water Development	394	414	434	456	479
Ministry of Local Government and Lands,					
Local Government Audit	556	584	613	644	676
Community Development	185	142	149	156	164
District Administration	202	212	223	234	246
Surveyor General	181	138	144	152	159
Ministry of Works and Communications	40	42	44	46	49
Posts and Telegraphs	586	735	1,020	1,300	1,627
Building Branch	432	454	476	500	525
Mechanical and Electrical Engineering	217	228	239	251	264
Roads Branch	483	507	533	559	587
Civil Aviation and Meteorological Branch	121	127	133	140	147
Ministry of Development Planning	45	47	50	52	55
Administration of Justice	57	59	60	62	64
Attorney-General	77	81	85	89	94
Audit	42	44	46	49	51
Public Service Commission	25	26	27	27	28
Salaries and Allowances Public Officers	27	28	30	31	33
Miscellaneous	2	2	2	2	2
	11,881	12,823	13,762	14,762	15,876

TABLE VIII: SUMMARY OF RECURRENT EXPENDITURE RESULTING FROM DEVELOPMENT PROJECTS (R'000)

Department	1968/69	1969/70	1970/71	1971/72	1972/73
Agriculture Department	-	11	20	41	42
Community Development	-	-	-	-	-
Co-operative Department	-	9	18	19	19
Ministry of Development Planning	-	-	-	-	-
Education Department	9	160	228	297	352
Ministry of Education, Health and Labour	-	15	35	50	60
Game Department	18	43	45	47	49
Geological Survey	11	23	37	74	86
Ministry of Home Affairs	-	4	10	12	15
Information and Broadcasting	-	-	-	-	-
Inter Departmental Projects	-	20	30	100	300
Ministry of Local Government and Lands	-	-	-	-	-
Medical Department	13	83	131	210	294
National Development Bank	-	-	-	-	-
Police Department	-	1	6	10	13
Posts and Telegraphs	-	-	-	-	-
Public Works	-	28	38	44	52
Surveys and Lands	-	-	-	-	-
Department of Veterinary Services	-	58	103	121	124
Water Branch	-	26	30	33	35
	51	483	780	1,058	1,440

TABLE IX: SUMMARY OF CAPITAL EXPENDITURE BY DEPARTMENTS (R'000)

	1968/69	1969/70	1970/71	1971/72	1972/73
Agricultural Department	326	280	93	54	58
Community Development	44	40	65	65	100
Co-operative Development	18	56	3	-	-
Ministry of Development Planning	9	10	10	10	10
Education Department	506	917	366	201	129
Ministry of Education, Health and Labour	77	100	50	50	-
Game Department	76	76	38	34	26
Geological Survey	27	53	39	70	31
Ministry of Home Affairs	69	58	48	80	53
Information and Broadcasting	-	12	-	-	-
Interdepartmental Projects	799	10,494	16,881	9,456	-
Ministry of Local Government and Lands	35	46	47	47	48
Medical Department	214	277	277	308	335
National Development Bank	850	1,000	1,060	1,370	1,405
Police Department	17	99	65	46	91
Posts and Telegraphs	441	330	228	236	22
Public Works Department	2,110	2,829	2,465	1,234	449
Surveys and Lands	54	74	21	21	21
Department of Veterinary Services	269	201	92	92	69
Water Branch	350	553	510	458	458
Unspecified	-	-	450	750	5,000
TOTAL	6,291	17,439	22,608	14,532	8,303

TABLE X - SUMMARY OF CAPITAL EXPENDITURE BY SECTOR

	1968/71 (R'000)	%
Physical Infrastructure	81,104	67.4
Water Resources	9,082	19.7
Social Infrastructure	3,007	6.5
Agriculture and Wildlife	1,606	3.5
Commerce and Industry	887	1.9
General Administration	448	1.0
	46,134	100.0

TABLE XI - SUMMARY OF RECURRENT EXPENDITURE BY SECTOR

	1968/71 (R'000)	%
Physical Infrastructure	7,736	19.4
Agriculture and Wildlife	6,745	17.0
Social Infrastructure	6,683	16.8
Water Resources	1,298	3.3
Commerce and Industry	270	.7
General Administration	11,971	30.0
Public Debt, Pensions and Gratuities	5,077	12.8
	<u>39,780</u>	<u>100.0</u>

TABLE XII: SUMMARY OF FINANCIAL PROJECTIONS (R'000)

	1968/69	1969/70	1970/71	1971/72	1972/73
RECURRENT BUDGET					
RECURRENT Expenditure to maintain existing services	11,881	12,823	13,762	14,782	15,875
Recurrent expenditure resulting from development projects	51	483	780	1,058	1,440
Total Recurrent Expenditure	11,932	13,306	14,542	15,840	17,315
Estimated revenue from internal sources	5,830	6,422	7,199	8,100	9,179
United Kingdom Grants	6,102	6,102	—	—	—
Total Recurrent Revenue in Sight	11,932	12,524	7,199	8,100	9,179
Shortfall on the Recurrent Budget	—	782	7,343	7,740	8,136
DEVELOPMENT BUDGET					
Total Capital Expenditure on Development Projects	6,291	17,489	22,605	14,580	8,803
Development revenue in sight:					
(a) External Sources	2,731	2,582	202	60	—
(b) Commercial loans	200	—	—	—	—
(c) Cattle Export Levy Fund	45	50	55	60	65
(d) Miscellaneous	5	—	—	—	—
Total Development Fund Revenue in sight	2,981	2,632	257	120	65
Shortfall on the Development Budget	3,310	14,857	22,348	14,460	8,238

PART II

Description of Development Projects

CONTENTS

	Page
Introduction	91
Agricultural Department	93
Community Development Department	100
Co-operative Development Department	102
Development Planning, Ministry of	103
Education Department	104
Education, Health and Labour, Ministry of	113
Game Department	114
Geological Survey Department	115
Home Affairs, Ministry of	116
Information and Broadcasting	118
Interdepartmental Projects	119
Local Government and Lands, Ministry of	120
Medical Department	121
National Development Bank	124
Police Department	127
Posts and Telegraphs Department	128
Public Works Department	132
Surveys and Lands	138
Veterinary Department	140
Water Branch	145

Part II Tables

TABLE

XIII	Capital Expenditure on Development Projects	149
XIV	Recurrent Expenditure Resulting from Development Projects	153

Introduction

In Part I a general analysis of the Botswana economy was presented, and the policies and priorities which have determined the composition of the proposed public expenditure programme over the Plan period were explained. In Part II the national development projects to be implemented by the Central Government during the period 1968/70 are briefly described, indicating, where appropriate, the phasing of expenditure over the next five years. Projects which will be started after 1969/70 have not yet been planned in detail and therefore cannot be included.

For ease of reference a simple system of classification of the projects has been adopted. The projects are listed by Government departments, which are arranged in alphabetical order. Each project has a code number consisting of two capital letters (representing the department responsible for implementing the project) and

two digits (representing the number of the project within the department). The code number does not indicate the priority of the project. For priorities reference must be made to Part I of the Plan. As far as possible the project numbers given in the Transitional Plan for Social and Economic Development (1966/71) have been retained.

At the end of each project description the projected capital and recurrent costs for the period 1968/73 are given. The recurrent costs represent only those new continuing annual costs which must be met as a result of the implementation of the capital expenditures. In some cases it has been found convenient to capitalise the "recurrent costs" of the initial year before the project has been properly established.

Rural Training Centres will each have the same staff and be capable of providing training of various agricultural departments field staff so as to enable them to keep up with new developments and, for a select group to advance to more responsible positions.

One Centre has been built adjacent to the Agricultural Department Training College and is in a position to receive

The second Centre will be established at Maseru, using buildings which previously housed the agricultural department training school. Funds will be required to cover more buildings for other new projects and to provide new equipment. Once completed, the Centre will

Introduction

The first of the two main parts of the report is a description of the project. This part is divided into two sections. The first section describes the project in general terms, and the second section describes the project in more detail. The second part of the report is a discussion of the results of the project. This part is divided into two sections. The first section discusses the results of the project in general terms, and the second section discusses the results of the project in more detail.

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Agriculture Department

AD 01: Agriculture Demonstrator Training College

Project completed.

AD 02: Expansion of Extension Service:

The agricultural extension service in Botswana is concentrated on the Pupil Farmer Scheme and the Pupil Stockman Scheme. In these schemes farmers, in return for practising rules of good crop and animal husbandry, receive loans for agricultural implements and animal husbandry equipment, free seed of selected varieties for three years, and help and guidance in their farming operations from Agricultural Demonstrators.

The essential elements in successful dryland farming are winter ploughing, early planting, row planting, correct spacing, and regular weeding. The use of quick-maturing crops and varieties increases production, as does the use of manure and fertilisers and a proper crop rotation. It has been shown that the farmers participating in the Pupil Farmer Scheme significantly increase their yields making use of the information imparted to them by the Demonstrators.

The number of farmers in the two schemes increased to 3,200 in the 1967/68 crop season and is expected to increase, with the addition of 40 new Demonstrators in 1968 and 50 in 1969, to 4,000 farmers in 1968 and 4,900 in 1969. Even after these increases farmers receiving extension advice will make up less than 10% of the estimated total of 80,000. The new Agricultural College at Content Farm will produce 50 new Demonstrators annually for the extension Services. The objective of this project is to provide additional quarters, offices and agricultural implements for Demonstrators as they enter service, so that they may effectively disseminate agricultural advice.

Each graduate of the Agricultural Training College who enters the Agriculture Department as a Demonstrator, to be effective, requires a

set of implements costing approximately R300. Similarly there are 40 Animal Husbandry Demonstrators who will also advise on crop husbandry and will therefore require implements. Housing must be provided for each new Demonstrator and office space and vehicles are required for efficient supervision of the extension programme.

	1968/69	1969/70	1970/71	1971/72	1972/73
Capital	37 400	43 400	20 400	21 800	22 000
Recurrent	-	-	-	-	-

AD 03: Rural Training Centre:

Experience elsewhere in Africa has shown that many subjects difficult or impossible to put across to farmers and their families by field extension methods can be taught successfully at intensive, residential, short courses at which more specialised advice is available and where the advantages of group instruction may be utilised. In addition, agricultural courses catering to the special needs of teachers, community development workers, co-operative organisers etc. need to be run, as well as courses for recent school drop-outs who are about to start farming on their own. It is considered particularly important to inculcate new attitudes and new techniques in young farmers before they can adopt the traditional ones.

Rural Training Centres will both meet the above needs and be used to give further training to existing Agriculture Department field staff so as to enable them to keep up with new developments and, for a select group to advance to more responsible positions.

One Centre has been built adjacent to the Agricultural Demonstrator Training College so as to economise on facilities.

The second Centre will be established at Mahalapye, using buildings which previously housed the agricultural demonstrator training school. Funds will be required to convert these buildings for their new purpose and to provide new equipment. Once completed, the Centre will

have residential accommodation for 60 persons, and will serve the northern part of Botswana. Recurrent costs in 1968/69 have been included in the capital item.

	1968/69	1969/70	1970/71	1971/72	1972/73
Capital	23,400	13,000	13,300	13,800	14,000
Recurrent	-	-	-	-	-

AD 04: Dam Construction Unit:

Provision for the continuation of this project (described in Chapter IV) has been made in the Ordinary Budget.

AD 05: Agricultural Broadcasting:

Provision for the continuation of this project has been made in the Ordinary Budget.

AD 06: Agricultural Statistics:

In any country as overwhelmingly dependent on agriculture as Botswana, economic planning can only improve as more and better information about the agricultural sector becomes available. In 1966, an FAO Agricultural Statistician arrived to plan and carry out the first stage of a nationwide agricultural sample survey covering the tribal farming sector. Information was collected for the crop season 1966/67 on a wide range of farming topics including the numbers of farm holders, acreage, production, livestock and farming inputs. This first survey gave much valuable experience for carrying out future surveys.

During the crop season 1967/68, a follow-up survey, recently revised to take account of the prevailing drought, is being conducted. This survey will lead to a national agricultural sample survey to take place during the crop season 1968/69. All agricultural surveys will use objective measurement and crop-cutting methods to estimate acreage and production.

At the completion of these sample surveys, it is planned to continue collecting yearly agricultural data on acreage, production, etc., on the traditional sector using a large panel of

selected farmers. Such year to year collection of data is necessary in Botswana with its large fluctuations in rainfall.

The above has been confined to the tribal farming areas. There is one further important farming group in Botswana, the freehold farmers. A postal questionnaire was sent to all these farmers at the end of 1967 asking for similar information to that obtained in the tribal farming areas. It is hoped to make this a regular yearly enquiry. A further agricultural survey will be undertaken in 1972.

	1968/69	1969/70	1970/71	1971/72	1972/73
Capital	16,000	17,700	-	19,000	20,000
Recurrent	-	-	-	-	-

AD 07: Demonstration Ranches:

This project which was started in 1967 envisages the establishment of seven demonstration ranches in the important cattle producing areas of the country. Each ranch is to be 5,000 acres in extent; fenced and divided into two paddocks. The capital expenditure and running costs in the first year are being provided by OXFAM. Capital expenditure will be completed in 1968/69.

The intention is that the ranches will accept African owned cattle on a short term basis for fattening prior to slaughter. By the use of improved animal husbandry techniques, the animals will gain in weight and grade before slaughter. The objective is to demonstrate to the stockowner the benefits of good management. He will be charged a per capita grazing fee which, it is hoped, will cover the recurrent costs of the scheme. The stockowners will receive increased prices for their cattle at slaughter which, it is anticipated, will greatly exceed the grazing fees charged.

	1968/69	1969/70	1970/71	1971/72	1972/73
Capital	13,600	-	-	-	-
Recurrent	-	-	self-financing	-	-

AD 08: Central Research Station:

Capital expenditure on this project has been completed and provision is made for the recurrent costs on the Ordinary Budget.

AD 09 : Crop Protection :

This project has been replaced by projects AD 18, AD 19 and AD 22.

AD 10 : Cotton Marketing :

Project completed.

AD 11 : Pilot Irrigation Settlement :

Because of the unreliability of dryland farming under the variable rainfall conditions of Botswana considerable attention is being given to the possibility of irrigation. Work has already commenced to assess the physical potential for irrigation in Botswana but no work has been initiated to study the sociological and practical problems of farming under the strict regimen and discipline essential to successful irrigation farming. Since the sociological difficulties are the most serious limiting factor to the success of irrigation settlements, it is of the utmost importance to investigate these problems before any large scale settlement scheme is started.

It is proposed to irrigate a 115 acre plot near Tonota, of which 15 acres will be used for experimentation with various crops and the remainder divided into 20 holdings of 5 acres each. The plot will be on suitable soil adjacent to the Shashi river from which the necessary water will be pumped. The scheme will be controlled by an irrigation agronomist who has been requested from the U.K. and who will be assisted by two Agricultural Demonstrators and ancillary staff provided for in this project.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	24,500	7,100	-	-
Recurrent	-	-	-	-	-

AD 12 : Ecological Survey of the Kalahari :

To enable the national herd to be expanded without further overstocking areas in Eastern Botswana, it will be necessary for new grazing areas to be opened up. Although most of the Kalahari is semi-desert, it is believed that there are large portions of it capable of carrying

cattle. However, these areas are little known ecologically, and in order to assess their potential land use, surveys must be carried out. One such survey has been completed in the Northern State Lands in association with the U.K. Directorate of Overseas Surveys, and smaller scale surveys are carried out from time to time by the Pasture Agronomist.

It is proposed that a survey of the Central and Southern Kalahari regions be carried out by the Directorate of Overseas Surveys, assisted by the Pasture Agronomist. The main limiting factor in such work is the availability of reliable transport suitable for the difficult conditions encountered. This project is to provide two 4 wheel drive vehicles, a 5 ton truck and a 1½ ton truck, together with running costs, camp equipment and radio telephones.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	10,800	3,700	-	-	-
Recurrent	-	-	-	-	-

AD 13 : Mechanised Fodder and Ploughing Unit:

This unit, consisting of tractors and ancillary equipment for both ploughing and gathering fodder, was established as an emergency drought relief measure in 1966 when the oxen were too weak to plough and fodder had to be gotten to reduce the rate of cattle deaths from starvation. In better years, it may no longer be necessary to cut fodder, but a large number of farmers will still have to use tractors for ploughing, especially the more progressive farmers who are cultivating larger acreages.

In 1967/68 the Unit was provided with a mobile workshop, a Land Rover and housing for the officer-in-charge. In 1968/69 it is proposed to purchase three threshing machines to be allocated to the north, central and southern areas of Botswana, and two front end loaders to be fitted to Massey Ferguson 165 tractors. There is a heavy demand in most seasons for the hiring of this type of equipment.

The recurrent costs of the unit are easily met from the fees charged for hiring: the ploughing fee is R3 per acre, and 20 cents is charged for each bag of grain threshed. The contract rate for the front end loader is R2 per hour. Seasonal credit is available from the N.D.R. to assist farmers.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	5 500	-	-	-	-
Recurrent	-	self financing	-	-	-

AD 14: Animal Husbandry Experimental Herds:

At present there are no facilities to carry out even the simplest animal husbandry experiments. In view of the importance of the cattle industry in the national economy emphasis is placed in this Plan on efforts to improve animal husbandry through the extension services of the Ministry of Agriculture. To be effective it is necessary for these extension services to be backed by sound experimental work on such matters as the feeding of various supplements, deworming, upgrading of indigenous stock through selective breeding, etc.

It is proposed to establish two experimental herds - one in 1968/69 and one in 1969/70 - to be accommodated in camps adjacent to existing demonstration ranches. Each herd will have 60 breeding cows and each camp will be 5,000 acres in extent, divided into four paddocks. The research work will be carried out by existing extension staff with additional casual labour to assist.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	12,000	12,000	-	-	-
Recurrent	-	1,500	1,500	1,500	1,500

AD 15: Mobile Animal Husbandry Teams:

In many parts of the country where the population is widely dispersed, mobile teams are considered to be far more effective than permanently stationed animal husbandry extension workers. Since cattle ranching is generally a most important activity in these areas, it is

proposed to establish two mobile animal husbandry teams (one during 1968/69 and one during 1969/70).

One team will be based in Mahalapye and will cover the area 100 miles to the north and 300 miles to the west of this station, where there are approximately 300,000 cattle. The other team will be stationed at Lobatsi, Gaberones or Kanye and will range over the southern half of the country. Each team will be composed of one Agricultural and Livestock Officer and twelve Demonstrators and will move from area to area, spending about one week in each location. It is visualised that the team will visit each area about four times a year. In the costings given below the operating costs in the first two years have been capitalised.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	32,400	43,800	11,200	-	-
Recurrent	-	-	1,200	22,400	22,400

AD 16: Sandveld Pasture Research:

The Lephepe Pasture Research Station was established in 1965 90 miles west of Mahalapye to investigate the potential of the extensive Kalahari region for livestock production and to determine the most suitable management methods for sustained production without causing the deterioration of the veldt. It also serves as a base for ecological studies of the Kalahari.

A group of three pilot management trials has been established to obtain cattle live-weight performance under different conditions. A fourth experiment investigates various treatment combinations on a one acre plot scale. In this framework a variety of information can be built up on animal/vegetation/management interactions. Provision is made in this project, which will be financed from a U.K. Research grant, for the continuation of this experimental work. All the expenditure is regarded as capital.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	6,900	9,300	5,500	-	-
Recurrent	-	-	-	-	-

AD 17: Naragha Valley Pilot Settlement:

The Naragha Valley is typical of many valleys which form the complex inland delta of the Okavango. The traditional practice is to cultivate the valley depressions (molapos) as the annual floods recede. The previous inhabitants were driven out by the advance of tsetse-fly in 1941, prior to which the valley had been regarded as one of the best maize producing areas in Ngamiland.

Following a tsetsefly eradication campaign, resettlement was attempted in 1958. A crop experimental station was established at Moshu in 1962 to provide information on the economy of the major crops in this region. The scheme encountered numerous difficulties, but in 1965 a new settlement programme was planned drawing on the previous years' experience. OXFAM funds were secured for this, which envisaged a further 90 farmers being settled in the period 1968/71. Each settler will be provided with 25 acres of seasonally flooded land, on which cotton, maize, sorghum and legumes would be cultivated. Provision is made in this Plan for the continuation of the project. The operating costs have been capitalised.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	17,400	9,900	11,500	-	-
Recurrent	-	-	-	-	-

AD 18: Grain Storage:

Every year in Botswana considerable amounts of food crops are lost in storage due to insect pests. For this reason farmers tend to keep only enough grain for their immediate needs and traders do not maintain large storage facilities. In years of good harvest large quantities of grain are sold for export at low prices and then re-imported later in the year with the result that consumers pay higher prices for their food and farmers receive lower prices for their produce than would be the case if more grain was stored by the farmer.

To assist the farmers with grain storage it is proposed to undertake a research programme

to determine optimum methods of protection against pests. This project provides for a grain storage specialist and storage engineer, together with the necessary equipment and facilities, who will devise storage methods which can easily be adopted by peasant farmers.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	55,900	20,800	-	-	-
Recurrent	-	-	-	-	-

AD 19: Entomological Research:

Considerable damage is done each year to crops by pests. It is proposed to undertake basic research to assist in the devising of practical methods of crop protection and pest control. The major objectives of this scheme are:

- to undertake a survey of the main pests in such crops as cotton, sorghum, maize and pulses, concentrating on the biological aspects relating to their control;
- to carry-out a detailed study of cotton pests;
- to produce material for use in demonstrations and extension work;
- to train nationals in pest survey and control work.

It is intended to carry out work on the toxicity of insecticides to various pests. It will be necessary to establish an insecticide laboratory at the Central Research Station in Gaborone. In this scheme provision is also made for the purchase of three vehicles to be shared by the research team, which will consist of three specialists, two field assistants and two technical assistants.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	35,100	18,400	-	-	-
Recurrent	-	-	-	-	-

AD 20: Breeding Herds for Demonstration Ranches:

Seven demonstration ranches will be established, as described in Project AD 07. It is anticipated that by far the greatest demand for grazing on the ranches will be during the autumn and winter.

The ranches will, therefore, be partially vacant during the summer months. To ensure that the staff is employed throughout the year, and to stabilize the incomes of these ranches, it is desirable that a small herd of 25 cows and 1 bull be placed on each ranch. It is estimated that by the end of the Plan period income from the sale of stock will amount to R1,400 which will be sufficient to cover the running costs.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	8,700	-	-	-	-
Recurrent	-	self financing	-	-	-

AD 21: Gaberones Irrigation Scheme:

There are approximately 20 acres of good irrigable soils adjacent to the Gaberones State Prison which is approximately 3 miles distant from the Gaberones Dam. It is proposed to pipe raw water to the farm for the cultivation of vegetables under flood irrigation. The produce will be used in state institutions, such as prisons, hospitals and schools and any surplus will be sold to the public. In addition the prisoners, who will be employed on the scheme under skilled supervision will receive valuable training which they may be able to apply after their release from custody.

It is proposed that the water should be led to the Prison Farm through areas of good irrigable soils near Tlokweng Village, to enable additional irrigation plots to be cultivated once the Prison scheme is established. This will provide both local employment and a much needed supply of fresh vegetables for the capital.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	24,500	-	-	-	-
Recurrent	200	-	self financing	-	-

AD 22: Quelea Control:

Quelea control is of vital importance to Botswana as large swarms of these birds do tremendous damage to the grain crops. Swarms bred in Botswana can also cause great losses in neighbouring countries and vice versa.

In a recent brief visit to Botswana a specialist stressed the need for further study of the migrations and habits of the weaver birds, and of the effectiveness of various control measures. It is therefore proposed to employ an ornithologist to conduct a survey throughout Botswana to determine local seasonal distributions and their relation to weather and vegetation with a view to arriving at detailed recommendations for their control. It is estimated that this research work will occupy a research officer for a period of approximately three years.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	26,400	12,000	12,000	-	-
Recurrent	-	-	-	-	-

AD 23: Pasture Investigations:

In its husbandry extension work, in particular through the Borehole Repayment Scheme and the new Dam Construction Unit, the Government has been and is continuing to attach great importance to grazing control. Information will soon be required on the effect of grazing control on veld composition and productivity, as such information is pre-requisite for planning further grazing schemes.

An existing pasture agronomy section carries out veld management research at two pasture stations, one near Mahalapye and the other near Lephephe. The section consist of a Pasture Agronomist, an Agricultural Supervisor and three Agricultural Demonstrators. In addition to work at the two stations, the section carries out vegetation and grazing surveys from time to time.

However, the present pasture agronomy staff and resources are committed to the existing programme, and a new unit will be needed to undertake the proposed investigations. It is proposed to establish a team of two pasture assistants or recorders to carry out the pasture

investigations. A 1½ ton truck will be required for their transport but housing can be provided at the pasture research stations when they are not engaged in the field.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	5,200	-	-	-
Recurrent	-	-	2,800	2,800	3,000

AD 24: Field Trials:

Since 1947 a vast amount of technical data has been obtained from the crop research stations in Botswana. This information covers a wide variety of crop and husbandry techniques. Information has been provided to farmers, by the extension service, following direct interpretation of the results achieved on small plot trials at the experimental stations. Due to lack of staff and shortage of funds it has not been possible to implement a series of field trials, based on data provided by small plot trials. This is regarded as an essential step in the research programme. It enables research officers to investigate to what extent successes achieved in micro-plots can be obtained on a field scale. The field trial is therefore a means whereby the research worker can evaluate the practical implications of his research work before advice on new techniques are passed on to the farmer. Field trials will also serve as an effective district demonstration to local farmers, who will be able to see for themselves the value of the improved agricultural techniques advocated by the Department of Agriculture. It is not possible to use small plot trials for demonstration purposes.

It is proposed to establish two research units — one in 1969/70 and one in 1970/71 — each of which will be capable of supervising ten experimental plots in selected soil types. Each unit will be under a Higher Technical Assistant and will consist of a tractor and trailer with implements. Funds for staff housing and fencing will also be required.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	11,900	11,900	-	-
Recurrent	-	4,300	8,800	8,800	8,900

AD 25: Mopane Veld Research Sub-Station:

The first crop experimental station was established at Mahalapye in 1946. Since then three additional sub-stations have been established to serve district ecological areas. A Central Research Station was established seven miles north of Gaborone in 1967. Information gathered from these stations has made a significant contribution to the success of the extension campaign for the introduction of improved agricultural techniques. Due to lack of funds a sub-station has never been established to serve the large area of Botswana (approximately 50,000 sq. miles) dominated by mopane woodland (*Colophospermum Mopane*). A certain amount of agronomic information obtained from the Mahalapye sub-station is applicable in the mopane areas, but much applied research work must be undertaken at a new research sub-station before the extension service can be supplied with comprehensive information concerning those crop varieties, optimum plant populations per acre, fertilizer applications, etc. which are necessary to obtain optimum yields from the rather infertile mopane soils.

In addition to the lack of agronomic information, little is known of the pasture potential of mopane woodland. This area supports a large human and cattle population and if the full potential of the cattle industry is to be realised, it is essential that comprehensive information on the water/soil/pasture/shrub relationships be obtained, in addition to information on the grazing potential of mopane veld. For this reason it is planned to establish a pasture research sub-station of approximately 1,000 acres adjacent to the proposed crop research sub-station. Simple trials to determine optimum carrying capacity of mopane veld, rate of denudation and rehabilitation would be undertaken, together with trials to investigate various methods of reducing the density of mopane using systemic herbicides.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	16,300	-	-	-
Recurrent	-	5,500	5,600	5,700	5,900

Community Development Department

CM 01: Community Development Field Staff:

This project has been terminated.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	25 000	25 000	30 000	40 000	50 000
Recurrent	-	-	-	-	-

CM 02: Community Development Training:

The capital expenditure under this project has been incorporated in the Botswana Training Centre's project.

CM 03: Youth Service:

The Government is very conscious of the needs and problems of youth (see Chapter IX). For many years to come the formal educational system will not be able to cope with the training needs of a large number of young people; provision is, therefore, made for out-of-school training on practical projects.

It is intended to seek further advice on the practicability of a National Youth Service. Meanwhile it is proposed to give continuing support to the existing Youth Brigades and where appropriate, start new ones. The aim of the Brigades is to provide youth with basic training in a variety of technical skills such as bricklaying, carpentry, weaving, dress making and wood turning.

Control over the general level of instruction is to be maintained through regular trade tests. It is anticipated that the ablest trainees will be chosen for further training at, for example, the Botswana Training Centre. The remainder will provide a pool of semi-skilled and skilled artisans who will either obtain employment in the urban sector, or will contribute to a greatly improved standard of workmanship in the rural sector. It is also hoped that a variety of handicraft industries may be developed through training in the Brigades.

The Brigades are capable of earning sufficient revenue to be self-supporting once established. Funds are required for a variety of capital materials and equipment, such as building materials and tools.

CM 04: Home Economics:

Home Economics Programme:

The recent drought focused attention on the need to improve our nutritional standards in Botswana and to make better use of our food resources. The hardship of recent years has in turn made the population receptive to new ideas regarding better food production, utilisation and preservation.

A Home Economics Unit has been formed to organise, train and actively engage our rural women on better methods of food production, utilisation, preservation, and storage. A number of courses have been successfully held at both village and regional level under the direction of a qualified Home Economist. Approximately eighty women's clubs have now been formed in Botswana and these are being used as a medium of contact with rural people. In many areas the clubs are developing vegetable gardens to meet certain vitamin deficiencies.

In order to develop this training programme the Department needs a mobile van equipped with demonstration equipment to assist village training courses. A demonstration kitchen together with stove, refrigerator and other equipment is required in Gaborone for central training courses.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	9 000	-	15 000	-	15 000
Recurrent	-	-	-	-	-

CM 05: "Ipelegeng" (Self-Help) Schemes:

Self-Help Projects:

The emergency Food for Work Programme which came to an end on 30th September, 1967, was based on self-help principles of development.

At one time as many as 33,000 workers were engaged on 700 projects ranging from the erection of school classrooms to the building of dams and roads. Over a period of 15 months there emerged a rural building programme of considerable importance. Full advantage has been taken of this emergency to make the people aware of their own potential, and now as they become organised under their village development committees, they are willing to become involved in the development process on a self-help basis.

Over 300 projects are presently being undertaken on this basis in which the community, for the most part, are providing the labour and the bricks while Government, where the community has insufficient funds, may provide the doors, windows, cement and roofing. To encourage this self-help spirit, Government is prepared to assist deserving projects. This requires funds. The immediate needs are mainly for building materials.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	10 000	15 000	20 000	25 000	35 000
Recurrent	-	-	-	-	-

Cooperative Development Department

CO 01: Development of Co-operatives:

There are now 54 registered societies in Botswana. Since these societies are still in their early stages of development, it continues to be necessary for the Co-operative Department to provide close supervision and support. Because of the widespread geographical distribution of these societies it is not possible to provide the required supervision with the present staff. Therefore, it is intended to recruit additional staff for posting to areas not yet covered, and to provide this new staff with housing and offices.

In addition, because Co-operatives are relatively new to Botswana, an extensive effort needs to be made to provide an understanding of their functions, benefits and operations. Although the field officers attempt to do this, it is felt that an education unit, specializing on this aspect of the Co-operative Movement, could accomplish the task more effectively. This unit will be based in Gaborone and travel around visiting existing and prospective societies. To form such a unit it will be necessary to provide housing in Gaborone and a vehicle specially equipped for this unit.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	18 200	-	-	-	-
Recurrent	- Provided for in Ordinary Budget				

CO 02: Co-operative Development Centre:

The stage has been reached in the development of the Co-operative Movement in Botswana where the need is for consolidation of what has already been achieved combined with a steady and controlled rate of expansion into new fields. Much work is required on three fronts, namely

- research into the problems facing co-operative societies and into the best ways in which co-operation can meet the particular social and economic needs at the local community level;
- the training of co-operative society officials in the economics and the administration of their businesses and the training of Co-operative Department officers to help and advise societies; and
- the general education of society members in co-operative principles and organisation.

To this end it is proposed to establish a Co-operative Development Centre with staff experienced in the relevant fields of co-operative theory and practice, to conduct research into the many social, economic, legal and administrative problems facing societies, and to run practical training courses for society officials and Departmental officers in a wide range of subjects both in the field and at the Centre.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	56 400	2 500	-	-
Recurrent	-	9 000	18 300	18 500	18 700

Ministry of Development Planning

DP 01: Consumer Survey:

Information for that part of a development plan which deals with the household sector and its economic transactions can most satisfactorily be obtained by means of a consumer-expenditure survey. The main aim of such a survey is to produce estimates of average household income and expenditure patterns which form the basis for a cost-of-living index.

In early 1963, two pilot consumer surveys were carried out, one in Serowe and one in Gaberones. Following these pilot surveys, the main twelve-month studies were started, both of which are due to finish in March 1969.

The Serowe Survey is being carried out with the help of the pupils of Swaneng Hill School. This survey is taking place in the largest tribal village in Botswana (1964 population of Serowe was 34,182), the unit of selection being the family courtyards. Out of a total of over 3,000 courtyards, it is hoped to randomly choose 300 courtyards giving a sample size of nearly 10 per cent.

Gaberones is the newly established capital of Botswana. It contains a large number of salaried persons in contrast to the largely peasant farmer community of Serowe. Here, using 10 enumerators with 3 supervisors, it is hoped to interview six hundred of the twenty-five hundred households in Gaberones, giving a sampling fraction of nearly 25%.

From the results of these two surveys experience will be gained which will be of great use to the planning of future consumer surveys. There is a need for these surveys to be carried out on a continuing basis. Future surveys should be undertaken in Francistown, Lobatsi and the large tribal centres. Tentative estimates for these are included in the expenditure projections.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	8,900	10,000	10,000	10,000	10,000
Recurrent	-	-	-	-	-

Education Department

ED 01: Francistown Secondary School:

Until recent years most of the existing facilities for secondary education were situated in the South, so it was decided to establish in stages a four stream secondary school in the North at a suitable centre which could serve the surrounding area. Francistown was chosen because it is a centre of communications, being on the main North-South trunk road and on the main railway. It is also linked by road and air services with Maun and other centres in Botswana. The school established there in January 1965 now has sufficient facilities to enable it to run a double stream of classes from Form I to Cambridge School Certificate.

In January 1968 there were 2 Forms I, 2 Forms II, 1 Form III, 1 Form IV, i.e. 6 classes with a possible total enrolment of 180 pupils. Pupils from the Francistown area attend as day pupils leaving the hostel accommodation available for a total of 160 pupils who come from distant homes. At the present rate of growth and with the present facilities the enrolment will be 270 in 1969, and eventually reach 300 in 1971.

Up to now the school has been run by the Mater Spei Roman Catholic missionary nuns with the assistance of a Government subsidy. It is however intended that a Board of Governors should take over the government of the school in accordance with the 1966 Education Law. On the Board will be representatives of the Education Department, the community served by the school, the local Education Authority, the parents and the Mater Spei Mission.

It is proposed in January 1969 to increase the intake from 2 Forms I to 4 Forms I so that the school will have four streams of classes from Form I to Form III. When fully developed, there will then be 16 classes with a total possible enrolment of 480 pupils and a staff of 23 teachers. To prepare for this expansion it will be necessary to build the following facilities:-

1968/69

6 classrooms

1 laboratory

hostel accommodation for 120 students

2 teachers' houses.

1969/70

hostel accommodation for 120 students

6 teachers' houses.

By 1971 it is proposed that this school should have two additional streams from Form IV to Form V, making 3 of these streams in all. If the project is phased as shown below, there are good prospects of this school having by 1972 an annual output of 140 pupils of whom 60 will have the Junior Certificate, and 50 the Cambridge School Certificate.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	73,000	89,200	20,000	-	-
Recurrent	5,800	18,300	27,200	38,300	40,000

ED 02: Swaneng Hill School:

This school is ably managed by a Principal who is responsible to a Board of Governors. It is situated 4 miles East of Serowe, headquarters of the Central District Council, in one of the most densely populated areas in the country. The school is unique in this country. It has been built largely by the voluntary labour of the teachers and students. It has been financed mostly by voluntary contributions from overseas; almost all its teachers are volunteers. It is also the centre of a number of thriving community development projects.

In 1967 the school had 4 Forms I, 3 Forms II, 2 Forms III, 1 Form IV and 1 Form V taking the Cambridge School Certificate Examination. There is accommodation for a second Form IV and Form V, and this accommodation will be taken up as soon as sufficient numbers come forward from Form III with the Junior Certificate. Similarly accommodation exists for four Forms I, four Forms II and four Forms III. There are also

laboratories, a library, a workshop, an office, teachers' houses, students' dormitories, an electricity generator and two boreholes for water.

It is expected that from 1968 onwards there will be a rapid growth in the numbers completing Form III, and that this growth will in time lead to an increase in the numbers completing Form V and taking the Cambridge School Certificate. Maximum use is being made in 1968 of the opportunity offered by a four-form entry to diversify the curriculum with a view to ensuring that each pupil studies subjects suited to his or her interests and capabilities. However, any increase in the number of examination successes must depend on the strengthening of the teaching staff. In a school which depends mainly for its teaching on the assistance of short-term volunteers, it is essential that academic standards should be safeguarded by a core of salaried teachers with adequate qualifications. For this purpose the Government already provides the school with an annual grant-in-aid for teachers' salaries amounting to R5,760. It is proposed to enable the school to increase its salaried teachers' strength by increasing the grant by an amount in 1968/69 equivalent to two local graduate teachers' salaries, and by a similar further amount in 1969/70. Capital development during the Plan period will include completion of an assembly hall, additional hostel accommodation, housing and classrooms and improvement of essential services.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	26,000	56,000	24,000	-	-
Recurrent	-	3,200	3,200	3,200	3,200

ED 03: Moeding Secondary School:

Moeding College is a co-educational secondary school built by the London Missionary Society. Situated 13 miles North of Lobatsi it is distant from all centres of population, although it is close to the main North to South trunk road and the railway line. Because of its isolated position it has had to face many difficulties, since it has to be completely self-contained in respect of housing, water supply, electricity and sanitation. Recent extensions of electric power transmission

lines from Gaberones Power Station pass near the school and it is intended to make the link up and thereby reduce the costs for the school.

At present there are two streams of classes from Form I to Form IV, and one Form V. By 1969 there will be two complete streams from Form I to Form V i.e. 10 classes with a total possible enrolment of 300 pupils. It is proposed starting in 1969 if possible, to add a third stream from Form I to Form III. This will ultimately put the enrolment up to 400, with a staff requirement of 18 teachers. For this development if the necessary funds can be obtained, the following additional buildings should be built in 1968/69:

- 3 classrooms
- 1 hostel for 40 boys
- 2 hostels for 30 girls each
- 1 laboratory
- 1 domestic science block
- 6 staff houses
- extension to administration block
- extension to dining room and kitchen
- vehicle servicing area
- addition to electricity and waterplants

If the capital expenditure is phased as shown below there will be good prospects of the school producing by 1972 90 students of whom 50 would have the School Certificate and 25 the Junior Certificate.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	117,500	132,500	-	-	-
Recurrent	-	10,200	13,300	15,700	16,200

ED 04: St. Joseph's Secondary School:

St. Joseph's College situated on the North-South trunk road 4 miles from Gaberones, is a coeducational boarding secondary school which was first established some 20 years ago. From small beginnings in 1948 when it provided the country's first Junior Certificate students, it has developed into a two-stream school from Form I to Form V. Well managed by the Roman Catholic Mission, it has had consistently good examination results. This fact together with the excellence

of the school site makes the school highly suitable for expansion.

Existing buildings comprise 3 teachers' houses, housing for three Mission Fathers, three Mission sisters and three Volunteers, hostel accommodation for 120 boys and 120 girls, 9 classrooms, 2 laboratories, 1 library, 1 typewriting room, 1 Dining Room and kitchen (Boys), 1 Assembly Hall-Dining Room (Girls), 1 staff-room - administration block, 2 recreation rooms. Being some distance from Gaberones, this school has to be self-contained. Like Moeding College it is situated close to the electricity transmission cables from the Gaberones Power Station. It will be a comparatively simple matter to join the school to the Gaberones supply, and at once greatly improve the efficiency of the school's electricity supply, which now is available only in the evenings.

It is proposed to add a third stream from Form I to Form III, and for this purpose a third Form I will be admitted later in 1968 when new accommodation is built. In 1968 there will be 11 classes with a total possible enrolment of 330 pupils and a staff of 16 teachers. By 1970 the school will have 13 classes with a possible enrolment of 400 pupils. Then it will be possible to add a third stream in Forms IV and V.

To accommodate the increase in pupils and staff the following additional buildings have been put up early in 1968.

- 2 classrooms
- 1 science laboratory
- 1 geography laboratory
- 1 domestic science block
- 3 teachers' houses
- 1 hostel for 64 boys
- 2 toilet blocks

This will not meet all needs, and it is hoped to obtain funds for the following additional facilities to be added in 1969/70:

- laundry
- improvement to the electricity supply

If the capital expenditure is phased as shown below there will be good prospects of the school

producing by 1972 an annual output of 90 pupils of whom 50 would have School Certificate and 25 the Junior Certificate.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	20 000	-	-	-
Recurrent	2 000	5,100	7,400	7,400	7,400

ED 05: Kgari Sechele Secondary School:

Kgari Sechele School was built by the Bakwena tribe in 1955 at Molepolole, the large tribal capital. Until the beginning of the 1967/68 financial year, the school was administered first by the tribal authority and then for a short time by the District Council, with financial help from the Central Government. In April 1967 it was taken over by Government, so that it is now administered by the Education Department. Eventually like all secondary schools, it will be governed by a Board of Governors.

Running this school up to the present has not been easy owing mainly to its inadequate and unsuitable buildings. These comprise the bare number of classrooms for a double stream of classes from Form I to Form III and little else. In particular, because there were no teachers' quarters, the school has always had difficulties in obtaining teachers. Also as there is no pupil boarding accommodation, many pupils from afar find their own boarding accommodation which in most cases is very unsatisfactory. Under such conditions as can be expected, wastage has been high, and success in the Junior Certificate Examination has been low.

In January 1968 work commenced on the following new buildings on a new and better site for the school:

- 6 classrooms
- 1 Administration block and library
- 1 laboratory
- 1 dining-assembly hall
- 8 teachers' houses
- 2 toilet blocks

It is proposed to enlarge the school, first by adding an additional stream starting in 1969,

from Form I to Form III. Then when the first lot of 3 Forms III complete the course up to Junior Certificate in 1971, it should be possible to have one Form IV in 1972. Thus by 1973 the school will have developed into a 3 stream school from Form I to Form III and a one stream from Form IV to Form V. There will then be an enrolment of 330 pupils with a staff of 16 teachers.

To accommodate the additional pupils and teachers, buildings will have to be provided as follows:

1968/69

- 3 classrooms
- 1 teacher's house
- 2 hostels each to house 60 pupils

1969/70

- 3 classrooms
- 1 laboratory
- 3 teachers' houses
- 1 hostel for 80 pupils
- 1 domestic science block
- 1 workshop and store
- 2 toilet blocks

1970/71

- 3 classrooms
- 3 teachers' houses
- 1 hostel for 80 pupils
- 2 toilet blocks

If the capital expenditure is phased as shown below, there will be good prospects of the school producing by 1973 an annual output of 90 pupils of whom 20 will have the School Certificate and 50 will have the Junior Certificate.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	48,000	85,000	55,000	20,000	-
Recurrent	500	15,000	25,000	35,000	45,000

ED 06: Molefi Secondary School:

Molefi School was built by the Bakgatla Tribe in 1951 at Mochudi, the tribal capital. The Tribal authorities and then for a short time the District Council administered the school up to March 1967. After that it was taken over by the Govern-

ment and is now administered by the Education Department.

Until 1968 the School had little more than the bare number of classrooms to house two streams of classes from Form I to Form III. It was deficient of most of the facilities required by a secondary school in this country, including staff houses and boarding accommodation for pupils. As a result it has had much difficulty in obtaining and keeping staff. Not unexpectedly also there has been high wastage among the pupils, and low success rates in the Junior Certificate Examination.

Early in 1968 the following new buildings on a completely new site were completed:

- 6 classrooms
- 1 administrative/library block
- 1 laboratory
- 1 dining-assembly hall
- 2 toilet blocks

It is planned to develop this school on parallel lines to that of Kgari Sechele secondary school fully described above. An additional stream of classes from Form I to Form III will be added starting in 1969. Then in 1972 a Form IV, and in 1973 a Form V will be added. Thus by 1973 there will be 11 classes with a total enrolment of 330, and a staff of 16 teachers. Boarding accommodation must be provided at an early date, so that students coming from afar can be properly supervised instead of living as they do now in unsatisfactory private boarding accommodation.

The additional buildings will be put up in phases similar to those described for Kgari Sechele.

If the capital expenditure is phased as shown below, the school has good prospects by 1973 of turning out 90 pupils a year of whom 25 will have the School Certificate, and 50 the Junior Certificate.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	48,000	85,000	55,000	20,000	-
Recurrent	500	15,000	25,000	35,000	45,000

ED 07: Seepapitso Secondary School:

Seepapitso School was built by the Bangwaketse Tribe in 1950 in Kanye, the large tribal capital. It was administered first by the tribal authorities, and later for a short time by the District Council until March 1967. In April 1967 it was taken over by the Government, and is now administered by the Education Department.

Since its early days it has suffered from major deficiencies of facilities including staff housing and boarding facilities for pupils. In this respect it was almost, but not quite, as badly off as the two other former tribal schools, Kgari Sechele and Molefi.

The school has now two streams of classes from Form I to Form III. It will be expanded on parallel lines to the development of Kgari Sechele described in full above. Early in 1968 alterations and additions have been made to the existing buildings so that it has the following facilities:-

- 6 classrooms
- 1 dining-assembly hall
- 1 sewing room
- 1 laboratory
- 1 laundry room
- stores
- toilet facilities
- offices
- staff room

This school will develop a third stream from Form I to Form III starting in 1968, and then a single stream from Form IV to V will be started in 1971. By 1972 it will have 11 classes with an enrolment of 330 pupils and a staff of 16 teachers. The large majority of the pupils will be housed in hostels. New facilities will be required similar to those proposed in ED 05 (above).

If the capital expenditure is phased as shown below, there will be good prospects of the school by 1972 producing an annual output of 90 pupils, 25 of whom will have a School Certificate and 50 of whom will have a Junior Certificate.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	58 000	85,000	55,000	20,000	-
Recurrent	500	15,000	25,000	35,000	45,000

ED 08: Francistown Teacher Training College:

On a twenty acre site a building which was originally intended as a hostel for about 50 primary school pupils, has been converted for use as a new residential teacher training college for 180 students. Additional buildings including 8 staff houses, are either under construction or soon will be. Money for the conversion of existing buildings, the new buildings including the staff houses and the furnishing of all of this accommodation, amounting in all to R314,000, has been provided by the Government of Sweden. Further funds have been given by UNICEF for teaching equipment, and the payment of maintenance grants to the untrained teachers who will attend courses in the college.

The work on the teaching and student residential accommodation was completed in March 1968, and the staff housing will be ready a few months later. Work on furnishing and equipping the college is now in progress. Three members of the lecturing staff including the lecturer who will be responsible for the correspondence courses, are available in Botswana, and the principal is expected to arrive from the United Kingdom shortly. It should therefore be possible for the college to take in the first group of 60 trainees by the middle of the year for a residential course lasting 4 or 5 weeks. During its first year of operation, about six such groups will undergo this first residential training course. During the second year these groups will have their second residential course, but each will be joined by another group of trainees having their first residential course. Then in the third year the college will reach maximum capacity, when in each intake of students there will be three groups of trainees one doing the first residential course, one the second, and one the third.

For the complete development of this programme, more staff housing will be essential. About 10 more houses will be needed in or near the college in Francistown, and in addition six simple houses for volunteers will be required, two at Serowe and one each at Maun, Kanye, Molepolole and Mahalapye. These are for six

volunteers who will assist trainees to carry out their correspondence assignments during the periods when they are away from the college, and teaching in their schools.

If the project is phased as shown below, there will be good prospects of the College solving the problem of the unqualified teachers in the primary schools within three or four years.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	88,000	-	-	-	-
Recurrent	-	-	-	-	-

ED 09: Lobatsi Teacher Training College:

This project has been terminated - see ED 17.

ED 10: School Broadcasting:

The efficacy of educational broadcasting has been widely recognised in other African countries. It is particularly effective in the case of primary schools in a country with a widely scattered population. It could be especially valuable in Botswana as a teaching aid for the very many poorly trained teachers.

A 10 KW transmitter has recently been installed in Gaberones capable of reaching every one of the 250 primary schools in the country. The U.K. Freedom From Hunger Campaign have already provided a R5,750 grant for 300 radio receivers to be distributed among the primary schools. All that is now required are funds to meet the cost of a School Broadcasting Unit to prepare suitable radio programmes and to edit material obtained from other countries.

With a projected capital expenditure of R34,000 to meet the cost of a recording van and equipment and housing for the staff, and an annual recurrent expenditure of some R20,000 it would be possible to provide 10 to 15 hours of primary school broadcasting each week.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	13 800	-	-	-
Recurrent	-	25 200	26 400	27 800	30,000

ED 11: Primary School Equipment:

From the description of conditions in the primary schools, it is obvious that many teachers and children have to attempt to do their daily school work under conditions which make the learning process almost impossible. Several education and economic survey missions visiting the country in recent years have drawn attention to the sad conditions existing in most primary schools. During 1967/68 a large number of desks were purchased. The main needs now are teachers' tables and chairs, cupboards, school clocks, globes, maps, a few weighing scales (in connection with the school feeding programme), library books, and more desks.

The District and Town Councils elected in 1966 are responsible for the schools in their respective areas. Although new to the work of school management, they are making very good progress. Quite properly they have given priority in using their scarce funds to the provision of school text books, and there is no doubt that in this matter conditions have very much improved in the last twelve months. Nearly all children now have been provided with the necessary text books, even if some of them have no roof over their heads, or no desks.

Owing to the transport difficulties, the cost of equipping schools is different in different parts of the country. Nevertheless it is estimated that the cost of providing a classroom with the basic furniture, a globe and a few maps amounts on the average to R275. The proposed targets are:

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	40 000	40 000	40 000	40 000
Recurrent	-	-	-	-	-

ED 12: Secondary School Bursaries:

This project has been transferred to Ordinary Budget.

ED 13: Higher Education Bursaries:

This project has been transferred to Ordinary Budget.

ED 14: Educational Testing:

In November each year the children who have completed Standard 7 sit for the Standard 7 examination i.e. a test in English, Tswana, Mathematics and General Knowledge. Then the results of this examination are one of the main factors taken into consideration in selecting pupils for admission to secondary schools the following January. Out of 5341 pupils who sat the examination in 1967 for example, 700 children were selected for admission to Form I in January 1968. Earlier in this plan are given details of the schemes to expand secondary schools, so that before long 1,000 children will be taken into Form I each year. Nevertheless for several years to come, only a small proportion of the pupils who complete primary school will be able to get places in a secondary school. Considering this fact and the country's very great need of people with a secondary education, it will be realized how important it is that the best use is made of every secondary school place. Unfortunately up to date the wastage in the early years of secondary education has been very high, amounting in some schools to 40% of the initial entry. This cannot be allowed to continue; steps are to be taken to improve selection procedures to ensure that those pupils who will benefit most are selected for admission to Form I.

As one of the measures to improve the situation, it has been decided to discontinue using the Standard 7 examination for selection. In its place it is intended to use objective intelligence tests which have been developed successfully in neighbouring countries.

In order to do this however it will be necessary to obtain the services of an educator who is a specialist in intelligence testing, and in addition purchase suitable tests. The specialist will advise on tests, adapt them to local conditions where necessary, and train local educators in using them so that the work will continue when he leaves.

Approximate costs of this programme will be as follows:

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	30 000	-	-	-
Recurrent	-	6,400	6,400	6,400	6,400

ED 15: Correspondence Courses and Night School:

Out of more than 5,000 pupils who sat for the Standard 7 (end of primary school) examination in 1967, about 1,200 obtained a Grade A or Grade B result. Of the latter number, just over 400 have gone into secondary school, although more were qualified for admission. Of the 800 A and B grade pupils and the remainder of the 5,000 pupils some will have found employment or become housewives, but there must be many who if given the opportunity would improve themselves mainly by private study. The situation will continue to be like this year after year so that many boys and girls leave the primary school, some of them well qualified to undertake the Junior Certificate course for example, but unable to obtain a place in the secondary schools.

It is intended to help these persons by setting up correspondence courses which will be organised on parallel lines to the inservice correspondence course being organised for teachers at the Francistown Teacher Training College. Starting in 1968, lessons will be prepared for Junior Certificate first year subjects, then year by year courses for the second and third year will be added. Subsequently when the numbers justify it, the courses will be extended to the Cambridge School Certificate, and the examination of other bodies according to the demands from students.

In order to carry out this programme, it will be necessary to obtain the services of an educator who has had considerable experience of organizing correspondence courses. He will arrange for the courses to be prepared by specialist teachers, arrange, at the Francistown College, for the reproduction of lessons, their despatch to students and the correction of the students' work. He will advise on the selection of suitable centres, and the appointment of centre organisers. Moreover wherever possible he will assist in the setting up of Adult Education Associations com-

posed of volunteer members who will organize evening classes in their own areas. These associations will be assisted by Government to obtain free of charge the use of school buildings in the evenings. Otherwise the evening classes must be self supporting i.e. teachers employed in them will be paid from the tuition fees charged to students. Charging fees to night class and correspondence course students will be necessary in order to discourage people who are not seriously intent on self improvement. Students lacking sufficient means will however be able to apply for a bursary as in the case of secondary school pupils.

If the capital expenditure is phased as shown below, it is thought that several hundreds of students would soon be studying at home for the Junior Certificate Examination.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	1 200	1 200	1 200	1 200
Recurrent	-	6 800	7 500	8 300	8 300

ED 16: Tonota School:

It is intended to establish a new secondary school at Tonota, situated some twenty miles south of Francistown in an area which will almost certainly be rapidly developed for industry in the next few years. The school will be developed along lines very similar to Swaneng Hill School, with various vocational training programmes associated with it. A start will be made immediately.

To establish the Tonota Secondary School, 2 Forms I will be admitted in 1968, 3 in 1969, 4 in 1970 and each year afterwards. Thus it will be possible to have 1 Form V in 1972, 2 in 1973, 3 in 1974 and each year afterwards, i.e. by 1974, this school will be fully developed with four streams from Form I to Form III, and three streams in Forms IV and V. There will then be 18 classes with a total possible enrolment of 540 pupils, and a staff of 25 teachers.

On the vocational training side, trainees will be engaged after completing primary school for courses which will last three years, and at the

end of which each trainee will take a recognised Trade Test. Commencing in 1968, one group each year will be admitted for the Building trade. Then a group each year for the new trades shown will be admitted as follows: in 1968, one each for Farming and Carpentry; in 1970, one each for Textiles and Mechanics. Thus by 1972 360 trainees will be enrolled with a staff of 21 teachers.

The following buildings will ultimately be required for these two schools:-

- 20 classrooms including special rooms
- 4 laboratories
- 4 workshops
- 1 domestic science block
- 1 library
- 1 hall
- 6 hostels for 290 boys
- 3 hostels for 150 girls
- 20 staff quarters
- 4 toilet blocks.

These buildings will be put up in phases, the first one commencing in 1968/69. If the capital expenditure is phased as shown below, the schools will have the following output of pupils:

- (i) Tonota Secondary School: by 1974, 30 from Form III 25 of them with a Junior Certificate; from Form V, 90, 75 of them with a Cambridge School Certificate.
- (ii) Tonota Mixed Trade School: by 1972, each year the following potential tradesmen: 30 builders, 15 carpenters, 15 mechanics, 20 textile workers and 40 farmers.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	49 900	92 300	55 400	69 500	58 000
Recurrent	-	21 000	40 500	60 000	75 000

ED 17: Lobatsi Secondary School:

To expand the facilities for secondary education, it is proposed to establish a junior secondary school at Lobatsi. To do this 2 Forms I will be admitted in 1969, and each year thereafter.

By 1971 accommodation will be required for 6 classes for which there will be a staff of 9 teachers.

It is unlikely that new buildings will be ready by January 1969, but this need not prove too great an obstacle, as for the first year the school may have to operate in improvised accommodation.

In 1969/70 the following buildings will be erected:-

- 6 classrooms
- 1 Administrative block and library
- 1 laboratory
- 1 dining-assembly hall
- 8 teachers houses
- 2 toilet blocks

If the capital expenditure is phased as shown below by 1971 the school will be turning out each year 60 pupils of whom 50 may have the Junior Certificate.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	117,000	-	-	-
Recurrent	-	18,700	20,700	27,300	30,000

ED 18: Primary School Improvement Programme:

80% of Botswana's 250 primary schools have no latrines, and many more than 80% of them have no water supply in the school compound. The toilet for teachers and pupils in these schools is some deserted place in the bush. Under these conditions the children cannot be taught the simple rules of hygiene for daily life. In such schools, where neither teachers nor children can wash their hands, children are being impressed by the fact that their teachers do not consider the rules of hygiene very important. Clearly this situation is most unsatisfactory. Government's task of persuading the people to build latrines will eventually become very much easier when these are provided in all schools. It is therefore intended to institute a programme of latrine building and water supply installation which will be continued until all schools are put into a satisfactory condition. It is estimated that there are some 200 schools involved at an average cost of R125 per school.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	70,000	60,000	30,000	30,000
Recurrent	-	-	-	-	-

Ministry of Education, Health and Labour

LS 01: Language Laboratory:

Project completed.

LS 02: Development of Botswana Training Centre:

Technical and Commercial training facilities at the Botswana Training Centre are inadequate to produce the numbers of local skilled artisans, office workers, typists and book-keepers required in the expanding economy. Technical trainees at present number 47. In May 1968 the number will have increased to 100. Figures for 1968 onwards are difficult to assess, but intake numbers will have to be increased to meet the expected industrial demands. Considerable expansion is envisaged after 1968 to provide the skilled workers needed for mining development.

Present equipment, workshops and classrooms cannot cope with more than 60 trainees and therefore capital expenditure is necessary for 1968/69. Commercial equipment for effective training is totally lacking and has handicapped this section.

It is expected that over the next two to three years there will be a demand for one year residential courses for office workers and residential short courses on management and allied subjects. An annual intake of 60 to 70 trainees is expected.

Funds are immediately required for further development of the technical and commercial training sections. During 1968/69 R2,800 is required for the carpentry workshops, R16,000 for the Mechanical Workshop, R500 for Motor Mechanical Workshop, R20,500 for the Electrical Workshop, R11,000 for Commercial Training, R12,000 for a Womens' Hostel and R14,000 for classrooms.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	76,800	100,000	50,000	50,000	-
Recurrent	-	15,000	35,000	50,000	60,000

LS 03: National Library:

See project HA 06.

Game Department

GA 01: Wildlife Conservation:

Botswana has extensive wildlife populations extending over most of the country, although in parts this valuable resource has been over-exploited. It is of great importance as a source of food, hides and skins, and as a basis for the tourist industry. It is imperative that the Department of Wildlife be enlarged to cover the entire country so as to service adequately this resource. The Fauna Conservation Proclamation has been carefully amended to provide the machinery for the improved control of the wildlife industry and surveys are being undertaken to determine the effects of general development on essential wildlife habitats, particularly in areas where there has been a marked decline.

To effect the necessary expansion of the Department of Wildlife and National Parks additional staff at all levels with adequate housing and office will be required as well as transport, radios and other office and field equipment. With the proposed expansion which must also include an education and publicity programme recurrent expenditure will likewise increase.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	43 200	31 200	-	-	-
Recurrent	13 500	26 000	26 700	27 500	28 300

GA 02: Development of National Parks:

The Chobe and other proposed National Parks and Game Reserves are the main tourist attraction in Botswana. The Chobe, with its extensive range of veld types and its wide variety of wildlife, is probably one of the most attractive game areas in Africa. It is within ninety minutes of Victoria Falls linked by a good gravel road and is served by regular flights. It is in an excellent position to attract an increasing number of tourists and this potential will be increased by the intended link up of the Chobe with other sanctuaries. These include the Moremi Wildlife Reserve, the Okavango Swamps, Lake Ngami, Nxai Pan and the Makarikari Pans which together will provide an attractive circular tour.

The proposed development of the National Parks depends upon the provision of adequate tourist accommodation, roads and airstrips, sufficient staff to service the Parks and allowance for appropriate biological management including such important items as the correct provision of artificial water and protection from unplanned veld fires.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	32,600	36,300	30,000	26,000	22,000
Recurrent	4,200	13,400	18,800	14,200	14,600

GA 03: Kalahari Wildlife Utilisation Scheme:

In conjunction with HA 01 Bushman Training and Settlement it is proposed to investigate and if possible implement extensive wildlife utilisation for commercial profit by the peoples of the Central Kalahari. The plan is to set up a pilot project on the Okwa River to compare and contrast the suitability of wildlife utilisation with the rearing of domestic stock in the sensitive habitats of the Kalahari on a long term basis incorporating the traditional inhabitants of the region - the Bushmen. Thorough investigation at all stages will be necessary owing to the nature of the habitats and the peculiarities inherent in traditional Bushman culture.

If the pilot project successfully demonstrates that Bushmen can reap a satisfactory livelihood, by culling increased and stabilised wild populations of game animals, without even damaging the veld or the breeding herds, it is proposed to extend this form of land use through much of the Kalahari.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	8 000	8 000	8 000	4 000
Recurrent	-	4 000	4 500	5 000	6 000

Geological Survey Department

GS 01: Mineral Exploration:

The work carried out by the official Geological Survey is complementary to prospecting by mining organisations. Announcements made during 1967 of important mineral finds by mining companies have placed Botswana on the threshold of considerable mining expansion and there is an urgent need for the Geological Survey (which carries out the functions of a Mining Commissioner's Office) to be placed in a position where it can ensure that all provisions of Acts relating to mining and prospecting operations, safe mining practices and the enforcement of the explosives regulations are complied with. At the present time this is done by arrangement for infrequent visits from certificated mining engineers from another country and this is no longer proving suitable or practical in application. Therefore it is essential that further increases be made in the staff of the Geological Survey Department.

The existing staff of the Geological Survey is not equipped to deal with these matters and is in any event fully stretched with expanding Geological Survey work. There is now an urgent need to appoint fully certificated Mining Engineers to the staff of the Geological Survey to undertake these supervisory and inspection duties. The existing project has therefore been

revised to allow the appointment of a Government Mining Engineer and an Assistant Government Mining Engineer to the establishment of the Geological Survey in 1968/69. The Geological Survey, which undertakes Mining Commissioner's work, is the logical Department to which such officers should be appointed and follows the pattern of other developing countries.

Mining operations, which should commence shortly in Botswana, must be properly supervised and controlled by the Botswana Government. The safe custody and use of explosives according to approved methods and working conditions must be enforced to ensure that there is minimum danger to workers. The impact of the development of a mining sector upon the economy of Botswana will be dramatic and the Botswana Government must be placed in a position at an early date to ensure that such development takes place in an orderly manner. Funds are needed for vehicles and equipment for field inspection work, as well as for additional qualified staff, housing and office accommodation.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	27,100	52,800	39,300	70,200	31,100
Recurrent	10,800	23,000	36,800	74,200	86,000

Ministry of Home Affairs

HA 01: Bushmen Training and Settlement:

It is estimated that some 5,000 bushmen survive in the Central Kalahari Reserve. Another 1,000 are located around boreholes away from areas settled by other communities, and a further 5,000 squat on privately-owned Ghanzi farms. Of the 5,000 on the Ghanzi farms, about one quarter are employed or are the dependants of employees. The rest live off proceeds of occasional employment, poaching on the farms, begging, and stock theft. The employment picture has been steadily depressed due to the fencing of the farms and consequent reduction in the need for herdsmen, and the arrival of nomadic bushmen driven into the farming area by the drought. The relations between bushmen and Ghanzi farmers have deteriorated rapidly, due to the fact that these destitutes — no longer able to support themselves off the veld — turn to stock theft and local charity, and so impose a serious burden on the economy of the District.

It is intended to tackle the problem in two ways. Firstly, a pilot resettlement scheme will be started in the Okwa Valley where, initially, ten families would be settled near one borehole. Each will be given 20/30 cattle to manage, under the supervision of a livestock officer and a headman. The settlers will be taught the basic principles of stock ownership, stock management and dry land farming.

Secondly, the Dutch Reformed Church Mission at D'Kar operates a small school and a farm at D'Kar, where Bushmen children are given a primary education and where their parents are engaged in a small tannery and a leatherwork shop. It is intended to expand the facilities in terms of buildings and equipment to enable the Mission to better prepare Bushmen children for more positive and productive roles in the society.

The Game Department intends to start a game ranching pilot project (GA 04) which will be linked up with the Pilot Settlement Scheme and the D'Kar Mission project. It is proposed to create a Bushman Development Trust Fund which will be controlled by the Botswana Government,

in consultation with the Ghanzi District Council. It is hoped that local and international donors will prefer this method to the funding of individual projects. The following projections of expenditure exclude the salaries of an ecologist required for the game ranching scheme which will be obtained under technical assistance. All costs have been capitalised.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	45,000	18,200	17,500	19,500	18,100
Recurrent	—	—	—	—	—

HA 02: National Museum:

A National Museum and Art Gallery is under construction in Gaberones and, when completed will be the only museum in Botswana, with the exception of a small private museum in Kanye. Already much museum material of value has been lost for lack of interest and suitable storage. Expeditions to Botswana over the past forty years have removed from the country items of inestimable value which, if collected together in the National Museum, would enhance the cultural heritage of the nation.

The building under construction is being financed from private donations and a British Government grant of R8,000. When this building is completed, the Museum will consist of three display galleries, store-rooms, offices and a foyer. It has been designed to allow for expansion as the need arises. Initially the building will house three departments: Natural History, Prehistory, and Archaeology, and Ethnography; the Art Gallery and a department of Mechanisation will be added later.

Further finance will be required during the Plan period for the collection of material, display cabinets and furnishings. In 1972 it is proposed to expand the museum by the addition of three museum galleries and an Art Gallery.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	10,000	5,000	5,000	30,000	5,000
Recurrent	—	—	—	—	—

HA 03: Prison Workshops:

From the standpoint of both economics and prisoner rehabilitation, it is important to have prisoners engaged in productive activities. For the long-term prisoners, who cannot be employed outside the prisons, there is only one small workshop available at Gaberones and none elsewhere. The Gaberones workshop can only employ half of the 120 prisoners in this category.

It is proposed to expand the Gaberones workshop, in which tailoring and carpentering are done, to enable all 120 prisoners to participate, and to construct a similar workshop at Francistown. These workshops would also be used in the evenings for classes and recreation and on Sundays for worship. At present there are no prison facilities for evening activity.

The construction costs are extremely low because prison labour would be used.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	4,100	-	-	-	-
Recurrent	-	-	-	-	-

HA 04: Prison Welfare Officers:

At present there are neither official nor voluntary agencies to assist prisoners after their release. The situation is not too bad for the prisoners from rural areas who can return to their land and cattle, but there is a great deal of recidivism among prisoners from the towns. After release, these people generally find it difficult to find jobs, and they are often forced by circumstance to return to crime.

It is in the hope of preventing these persons from returning to prison that Welfare Officers are needed. They would begin by interviewing prisoners upon admission, and would then assist them in keeping in touch with relatives and by

providing them with suitable work and education in the prison. Before the prisoner's release, a Welfare Officer would contact possible employers and attempt to obtain suitable employment. They would finally pass on individual reports to community development or welfare officers to whom the ex-prisoner could report for assistance.

Two Welfare Officers, one for the North and one for the South, would be the minimum requirement. Capital is needed for their housing and recurrent funds for their salaries.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	15,000	-	-	-
Recurrent	-	2,400	5,000	5,100	5,300

HA 05: Law and Order:

This project is now numbered PD 01 and comes under the Police Department.

HA 06: National Library Service:

It is proposed to establish a Nation Library Service with headquarters in Gaberones and service points in the major district centres. So far the central library has been set up in the Gaberones Town Hall and a basic bookstock acquired. There is now a need to create branch libraries at Serowe, Kanye, Lobatsi and Francistown, adapting where possible existing facilities. It will then be possible using a mobile van to service other areas from these sub-centres. Towards the end of the Plan period library facilities will be required in the new mining townships. Funds will be required for new buildings, and, for furnishing, equipment and additional bookstock.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	10,000	20,000	25,000	30,000	30,000
Recurrent	-	2,000	4,500	7,000	10,000

Information and Broadcasting

IN 01: Film Unit:

Project completed.

IN 02: Broadcasting House:

Project completed.

IN 03: Lobatsi Transmitter:

Radio Botswana transmits at present from Gaberones in the short-wave, medium-wave and VHF bands. The medium-wave and VHF band transmitters are of low power and cannot be heard

clearly in Lobatsi. The short-wave transmitter is of high power but because of "skip-effect" its signals are also weak in Lobatsi.

It is proposed to purchase a 10 KW medium wave transmitter which will be based in Gaberones, and would provide an adequate service for Lobatsi, as well as improve the present medium wave service to a number of important centres.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	12,000	-	-	-
Recurrent	-	300	300	300	300

Interdepartmental Projects

ID 01: Shashi Complex:

A detailed account of the mining development in the north has been given in Chapter VII. The year 1968/69 will mainly be taken up with surveying the feasibility of these projects and planning for its execution. As plans reach finality, however, there will be a need to raise international finance to enable the construction of the infrastructure to proceed. Assuming favourable feasibility reports could be made before the end of the 1968/69 years and that the earliest possible steps are taken to obtain financial assistance it is likely that construction of infrastructural facilities could begin in 1969/70 to continue into 1970/71 and 1971/72 with the object of beginning mining operations in 1972/73.

At this stage, before detailed planning has been undertaken, it is unrealistic to attempt to make any, save the most tentative, estimates of finance needed to provide for the social and physical needs of any mining ventures which may take place. Such estimates must in fact be worked out during the first year of planning in 1968/69 as far as this is possible. However, in an effort to give some indication of the overall financial needs for this project the estimates given below have been made, of the total R36,335,000, roughly R200,000 will be required for planning and financing, R1,400,000 for design and documentation, R460,000 for supervision and administration, R18,000,000 for power, R6,000,000 for water supplies, R2,000,000 for roads, R8,200,000 for townships, and R75,000 for airfields.

(in 000's)

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	300	9,985	18,400	9,200	—
Recurrent	—	20	30	100	300

ID 02: Surveys and Training:

The purpose of this project is to undertake hydrological surveys in selected areas and to strengthen agricultural extension services prior to the preparation of a land and water development plan. In particular the project will —

- establish a basic hydrological network and undertake a hydrological survey of the tributaries of the Limpopo and the Okavango area including the Botletle and Chobe Rivers and the Makarikari depression;
- train staff for and assist Government in setting up a hydrological service;
- undertake a reconnaissance soil survey within the selected areas and such detailed soil surveys as are necessary for the preparation of a land and water development plan for a selected catchment;
- further the adoption of irrigation farming practices;
- assist the Government in the preparation of a land and water development plan for a selected catchment in eastern Botswana.

The project, entitled "Surveys and Training for Development of Water Resources and Agricultural Production", was approved by the Governing Council of the United Nations Development Programme (Special Fund) in January, 1967, and the plan of operation has recently been agreed upon. The project will begin shortly and will take four years to complete, the Food and Agriculture Organisation being the Executing Agency for the UNDP (Special Fund). The total estimated cost is R1,745,100 of which the UNDP share is R730,100 and the Government share R1,015,000. Contributions towards the Government share have been promised by the British, Swedish and Danish Governments, either in cash or in kind.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	499,100	509,100	481,300	255,800	—
Recurrent	—	—	—	—	—

Ministry of Local Government and Lands

LG 01: District Council Training:

The paramount need of all District Councils is training for their staff at all levels. This need is immediate and urgent and will continue throughout the Plan period, after which if the initial plan is successfully carried out, the crash programme should be capable of replacement by routine training.

As far as possible training will take place either on the job or at the Botswana Training Centre, although selected candidates for high level training will be sent abroad. In addition to existing staff at the B.T.C. it is proposed to recruit two new training officers, one for accounts and one in general matters of administration. All costs have been capitalised.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	10,000	21,100	21,700	22,800	23,000
Recurrent	-	-	-	-	-

LG 02: Improvement of Local Courts:

Provided for in Ordinary Budget.

LG 03: District Development:

In July, 1966, nine District Councils were established - replacing the traditional Tribal Authorities. In the enabling legislation these

Councils were given certain functions, which include provision of primary education, certain health and sanitation measures, maintenance of district roads, provision of water supplies and establishment and control of markets, pounds and recreation grounds. These Councils, despite the fact that they are new and have had little or no experience in development planning, have demonstrated their determination to develop their areas. This is evident from the District/Town Council five-year plans which have been prepared.

In order to encourage District/Town Councils in their local development effort, Government has decided to give assistance, as far as possible on a rand-for-rand basis, to worthy capital projects. The funds will be allocated on a competitive basis - since Government policy is to assist those Councils which make the most effort, and who make their needs known in the most convincing way. The ability of the Council concerned to implement its development programme will be taken into consideration in the allocation of funds:

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	25,000	25,000	25,000	25,000	25,000
Recurrent	-	-	-	-	-

Medical Department

MD 01: Gaberones Hospital:

The capital works of Phase I of the Gaberones Hospital Project were completed in 1966. This hospital has been designed to provide general medical facilities for the people in the Gaberones area and, in addition, to provide various specialist facilities for the whole country. The more complicated and difficult cases will be referred to Gaberones from other hospitals. The capital works of Phase II were begun in 1967 and included a maternity ward, a mortuary, an X-ray block, general store-rooms and housing for the Matron, the Sister Tutor, and the enrolled nurses.

It is proposed to complete Phase II of the Gaberones Hospital Project during the Plan period. This calls for an extension to the private ward, a paediatric ward, an ante-natal and post-natal child welfare clinic, an incinerator, staff changing rooms, and an extension to the central medical store during 1968/69 and a new medical ward, dental clinic and staff housing in 1969/70. Thereafter, R70,000 has been allocated for additions to wards. In addition, it is intended to centralise the training of student nurses, pupil midwives, and medical aides in Gaberones. It is, therefore, proposed to construct quarters and classrooms for these students during 1968/69 and 1969/70.

The completion of the Gaberones Hospital has the highest priority among the various projects proposed for improving medical facilities. The training of nurses, midwives, and medical aides for the country's hospitals and clinics is required to strengthen existing staff and provide medical services for an expanding population.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	109,700	113,200	60,400	79,200	75,100
Recurrent	8,500	22,500	61,700	69,700	86,800

MD 02: Serowe Hospital:

Serowe Hospital is one of Botswana's main hospitals, serving the central and eastern part of the country. Since it was built the demands

made upon it have grown considerably and a number of improvements are now required.

It is proposed that training facilities should be expanded in 1968/69 with funds being allocated for an extension of the Pupil Nurses' Home and for a new lecture/demonstration room. In 1970/71 a new paediatric ward will be built and alterations made to the maternity ward. In the same year additional senior staff quarters will be required.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	18,800	—	57,800	16,800	68,800
Recurrent	—	—	20,000	20,000	37,000

MD 03: Mahalapye Health Centre:

Mahalapye is the centre of a heavily populated area of the Eastern Batsangwato. The facilities at the Health Centre are grossly inadequate to cope with the number of patients requiring urgent hospitalisation. At times patients are forced to sleep on the floor, under beds, or in tents.

There is no operating theatre with the result that all surgical cases must be transferred to Serowe Hospital, eighty miles away; occasionally at great risk to the patient. It is therefore proposed to build an operating theatre in 1968/69 and a Surgical Ward the following year. Funds are allocated in 1968/69 for a male ward of sixteen beds and sanitary facilities, as well as an ante-natal, post-natal and child welfare clinic. Provision is also made for additional staff quarters in 1969/70 and 1970/71 and it is planned to construct an out-patient block in 1970/71, and paediatric ward in 1972/73.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	21,200	63,500	43,100	16,100	44,500
Recurrent	1,000	21,000	33,000	33,000	48,500

MD 04: Lobatsi Hospital:

Lobatsi is one of the old "cottage" type hospitals. Accommodation has been expanded over the years, but there has not been an equiva-

lent increase in domestic facilities, staff facilities, staff quarters, and technical ancillaries.

The immediate requirements are for a laundry and for an extension to the staff quarters. Other expenditures for 1968/69 include R1,500 which has been allocated to improvements to Peleng Clinic. In 1969/70 the bulk of the available funds will be devoted to an expansion of the Mental Home and additional senior staff quarters. An isolation ward will be built in 1970/71 and provision is made for an out-patients block, a new ward, an operating suite and staff quarters during 1971/72.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	24,500	29,300	15,900	112,800	-
Recurrent	800	4,500	9,500	20,800	20,000

MD 05: Gaberones Health Centre:

Until Phase II of the Gaberones Hospital is completed the Health Centre will continue to be used for all purposes except surgical and private cases. Thereafter, it is proposed to use the Health Centre as a tuberculosis and infectious disease hospital. At present the Health Centre is filled with patients and many beds are placed on the verandah, which has no screening. It is now proposed to fly-proof the verandah and construct an incinerator for the disposal of contaminated dressing. Other minor alterations are also proposed to improve the centre's facilities.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	500	1,000	3,000	-	-
Recurrent	-	-	-	-	-

MD 06: Francistown Hospital:

Francistown is the main hospital in the North, receiving patients from as far away as the Chobe and Palapye. Many cases are referred from Maun Hospital, as Francistown is better equipped and staffed. It is, however, greatly in need of a number of extensions to cater for demand.

Provision is made in 1968/69 for a male ward, administrative block and other improvements. A paediatric ward is planned for 1970/71, an

operating suite for 1971/72 and a further general ward in 1972/73. Funds will also be required for staff quarters, a kitchen, and various furniture and equipment.

Since Francistown is the centre of the new mining development a rapid increase in demand for hospital facilities is anticipated in this area. Consideration will soon be given to a new hospital in the north, possibly at Selibe/Phikwe. Provision for this is included in ID 01.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	24,900	15,000	75,200	67,700	73,300
Recurrent	2,400	15,400	27,400	32,400	54,400

MD 07: Maun Hospital:

Maun Hospital serves the north-western part of Botswana. A number of urgent improvements are required in its facilities. A kitchen was added in 1967/68 and it is now proposed to build a laundry, in 1969/70 and new senior staff quarters in 1969/70 and 1979/71. Provision is made in 1972/73 for a new ward, as well as additional staff quarters.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	8,900	11,800	15,400	73,200
Recurrent	-	-	5,000	10,000	22,400

MD 08: Kasane Health Centre:

Kasane Health Centre is situated in the far north, near the Zambian border. This is an area much visited by tourists who are attracted to the Chobe Game Reserve. The continuing development of the area requires the strengthening of the medical services. The present facilities at the Kasane Health Centre are not sufficient to serve the number of patients requiring hospitalisation.

It is proposed to build an additional eight bed ward, a dressing room, and a laundry in 1968/69. In 1969/70 it is planned to enlarge the kitchen and to extend the treatment room.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	7 800	6 000	-	-	-
Recurrent	-	1 000	1 000	1 000	1 000

MD 09: Ghanzi Health Centre:

Project completed.

MD 10: Good Hope Dispensary:

Project completed.

MD 11: Shoshong Dispensary:

Project completed.

MD 12: Health Education:

The general ignorance of the majority of the people about sound health practices causes much unnecessary hardship and many avoidable illnesses and seriously restricts their capacity for work. In particular, there is a great need for education in sanitation, family planning, ante-natal care, child care, nutrition, and similar matters.

The Government intends to start a pilot project in health extension work to arouse interest and to gain the co-operation of the mass of the people in improving the general health of the community. The project will give field experience and training to junior medical officers.

The area provisionally chosen for the pilot project is the Moshupa area where the Land Use Planning Authority is currently engaged in intensive activity. It is proposed that health education activities be closely linked with the social and economic development of the area. Provision is made in this project for a staff house, vehicle, equipment and teaching aids.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	80 000	-	-	-
Recurrent	-	5 000	10 000	10 000	10 000

MD 13: Tsabong Health Centre:

Tsabong Health Centre serving the Southern Kalahari is situated in a hot, sandy, and generally inhospitable area. The centre is isolated from other communities and the staff operate under most difficult conditions. At present staff housing and sanitation facilities are insufficient. In 1968/69 it is proposed to build one staff house and sanitation facilities and in 1969/70 another house will be built.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	3 000	2 300	-	-	-
Recurrent	-	-	-	-	-

MD 14: Pilikwe Dispensary:

Pilikwe Dispensary serves a densely populated area of Eastern Botswana. There is only one Staff-nurse stationed there to serve the 10 bed ward. It is proposed in 1969/70 to build additional staff quarters and post 2 enrolled nurses at the dispensary so that the patients may receive nursing attention twenty four hours a day.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	5 000	-	-	-
Recurrent	-	1 000	1 000	1 000	1 000

MD 15: Palapye Health Centre:

The existing Health Centre at Palapye consists of a small building with two rooms and a porch. It is visited regularly by a Medical Officer from Serowe and a Medical Aide is on duty daily. Since the Health Centre has a large and growing population to serve, it is planned to station a Medical Officer and a Staff Nurse in Palapye full time. Additions to the existing building are planned in 1968/69 to accommodate the increased use of the Health Centre envisaged. Additional staff quarters will be constructed in 1969/70 and 1970/71.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	4 000	2 800	10 000	-	-
Recurrent	-	12 400	12 400	12 700	12 900

National Development Bank

ND 01: Borehole Repayment Scheme:

Botswana has the potential to carry a national herd considerably larger than its present size. One way in which this potential can be realised is through the controlled expansion of grazing areas by establishing boreholes. The number of cattle served by a borehole is limited to about 500; an average offtake of some 50 head is therefore possible, valued at approximately R2,000. Loans are to be made available to private individuals through the NDB to meet the cost of drilling and equipping these boreholes. Security usually in the form of cattle will be required. Stock owners who do not have sufficient numbers of cattle to operate a borehole efficiently alone are encouraged to form syndicates with other owners (see Chapter III).

The maintenance of the boreholes may be carried out privately or by the Government borehole maintenance units against a deposit and in accordance with its scale of charges. It is highly desirable that the true costs of providing water are understood by stock owners in order to encourage ranching to be carried out on a commercial basis. The borehole repayment scheme is contributing to this objective. The NDB administers this project jointly with the Water Branch and the Department of Agriculture. It is intended to drill 25 boreholes each year and the cost per borehole, including equipment, is between R2,500 and R3,500.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	50 000	50 000	75 000	75 000	75 000
Recurrent	-	-	-	-	-

ND 02: Medium Term Agricultural Credit:

The improvement of arable farming is to be achieved through an expansion of the already successful Pupil Farmer Scheme. The Agriculture Department will train additional Demonstrators at the new Agricultural Demonstrators Training College at Gaberones. But the full impact of extension advice through Agricultural

Demonstrators cannot be achieved unless Pupil Farmers can obtain medium term agricultural credit for the purchase of farm implements and improvements.

To be successful, credit of this type must be carefully supervised. The NDB works closely with the Pupil Farmer Scheme through the Department of Agriculture and in this way is able to maintain high standards of supervision. However, even with the closest of supervision this type of credit is fraught with risks in a country like Botswana which is so often beset by drought. To minimize these risks as far as possible, the NDB intends to maintain its policy of lending only where the loans can be justified on the basis of the farmer's ability to make economic use of the increased capital investment.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	40 000	50 000	60 000	70 000	80 000
Recurrent	-	-	-	-	-

ND 03: Seasonal Agricultural Credit:

The demand for short term credit to finance crop production so far has not been very great. However, it is anticipated that as more Pupil Farmers progress from Pupil to Improved to Master Farmers the scope of their farming activities will increase and there will be substantial numbers who will need credit to finance the purchase of seeds, fertilisers, ploughing and other items. In their early stages the co-operatives have concentrated principally on marketing. However, it is envisaged that they will assume a major role in the administration of seasonal agricultural credit as they mature. Until this stage is reached it will be necessary to concentrate these loans among members of the Pupil Farmer Scheme, though any other farmers would certainly be considered favourably if they could provide adequate security.

In its early stages, while the acreage being cultivated by individual farmers is small and before the co-operatives reach maturity it is

not anticipated that the level of demand for seasonal credit will much exceed the low levels of the past. However, in the longer term an increasing demand for this type of credit can be expected and will be met by the NDB.

	1968/69	1969/70	1970/71	1971/72	1972/73
	Rm	R	R	R	R
Capital	-	-	25 000	50 000	75 000
Recurrent	-	-	-	-	-

ND 04: Co-operative Credit:

In addition to the need to provide educational and training facilities for the staff of co-operative societies, there is a need to provide funds to assist the capitalisation and development of the societies themselves. Two principal forms of credit are required - short term loans to finance marketing operations and long-term loans for capital purposes.

The short-term loans are needed mainly for crop and livestock marketing and would normally be repayable over a period of 3 to 6 months. Longer-term loans (for periods up to 7 years) are required for the construction of trading premises, warehouses, ranching areas and holding grounds, and transport. These loans would supplement capital raised by the societies themselves and make possible a much faster rate of development. Co-operatives are required by law to allocate 25% of the net trading surpluses to undistributable reserves in order to ensure a steady growth of self-owned capital and thus progressively decrease reliance on loans from other sources.

Co-operative Societies are being encouraged to raise as much of their capital requirements as possible from within the Co-operative Movement, but there will remain the need for the foreseeable future for financial help from outside. It is Government's policy that all such help will be provided to co-operative societies on a loan basis only.

The Co-operative Development Trust is presently administering funds provided for specific co-operative projects and is also acting as a deposit and lending agency for capital now

being accumulated by societies. However, funds for capital development will be needed on a larger scale than can be supplied by the Trust for the purposes cited above and short-term crop financing will be a recurring and pressing need. The NDB is the agency that will be called upon to meet these needs.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	50 000	50 000	75,000	75,000
Recurrent	-	-	-	-	-

ND 05: Commercial and Industrial Credit:

The Government proposes to promote commercial and industrial investment by the provision of credit facilities for private enterprise through the National Development Bank. Presently there are many entrepreneurs who have viable project to implement but require additional finance to supplement their own resources. It is intended that the NDB should fill a gap in the credit structure of the country by providing credit facilities to those people, who, either because of the type of security they have to offer or because they require medium to long term loans, cannot have recourse to the commercial lending institutions.

Government's objective is to attract commerce and industry to Botswana (see Chapter II). In addition to the National Development Bank consideration is being given to the establishment of a National Development Corporation. This institution would be able to take initiative in forming industrial or agricultural ventures where it is felt that potential has not been exploited. In addition, such an institution could provide technical entrepreneurial advice and actually participate in management. However, it is considered that these functions, although essential to the development of local industries, would in no way detract from those of the NDB which would continue to have a major role in financing private investments, and might also provide finance for this Corporation.

It is anticipated that within the Plan period, there will be a rapid growth of commercial and industrial activity in Botswana, judging by the

opportunities which exist and by the number of companies currently applying for registration. Heavy capital requirements will result from the credit that the NDB will wish to make available to these ventures.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	210 000	250 000	250 000	500 000	500 000
Recurrent	-	-	-	-	-

ND 07: Low Cost Housing:

The creation of a new capital at Gaborone and the development of important industrial and commercial centres such as Francistown, Lobatsi and Gaborone have created an acute demand for low cost housing. The influx of people to these centres in search of work has resulted in the growth of slums. In order to arrest this trend and clear the "shanty towns" which have already appeared, funds are required for the construction of municipal housing.

With the prospect of new mining towns developing and the continued growth of the urban areas it is difficult to project accurately the future requirements for low cost housing. The estimates below are based primarily on the anticipated expansion of the three major urban areas, Francistown, Gaborone and Lobatsi and the growth of the mining towns. As mentioned in Chapter VIII, Government is actively considering the feasibility of a Home Ownership Scheme or a Housing Corporation and several plans for Building Societies have been put forward. If any of these proposals are implemented the projection of credit for low cost housing given below may need modification.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	300 000	300 000	300 000	300 000	300 000
Recurrent	-	-	-	-	-

ND 08: Mortgage Finance Housing:

There is a great shortage of housing to accommodate both Government officials and private persons. This seriously hinders the country's development. In the public sector it is intended progressively to place Government housing on economic rentals and concurrently to encourage home ownership. In the private sector many small businessmen are unable themselves to raise the capital cost of a house, whilst at the same time almost no housing is available to be rented.

South African building societies, although in receipt of considerable sums of savings from Batswana, are not permitted to provide mortgage finance for house building in Botswana. There is consequently an urgent need to create mortgage finance within the country.

With the possibility of a Housing Corporation being established it is likely that part of the finance will not be channelled through the National Development Bank. The estimates below are based on present estimated demand for this type of credit. Once a Housing Corporation is established to take over present Government housing and administer the development of future housing, it is possible that demand will exceed the projections given below.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	250 000	300 000	300 000	300 000	300 000
Recurrent	-	-	-	-	-

Police Department

PD 01: Police Buildings and Equipment:

To maintain law and order and to undertake routine police duties associated with law enforcement and criminal investigations, it is necessary to construct new facilities at a number of places which until now have been neglected.

In 1968/69 it is proposed to establish a new police station at Seronga in Ngamiland (R12,300) and to build an office, cell and store at the police post at Pandamatenga (R5,000). Both these places lie on strategic lines of communication and are required as bases for police patrols to control the movement of infiltrators and refugees.

Provision is made in 1969/70 for new facilities at Thamaga, Nata and Kachikau; in 1970/71 at Kalkfontein and Nojane; in 1971/72 at Bokopits; and in 1972/73 at Rakops, Bobonong, Ohifants Drift, Werda and Tshane. Funds will also be allocated in 1969/70 for an extension to the Quartermaster's Store and for additional classrooms and accommodation at the Depot in Gaberones.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	17,300	99,000	65,000	46,000	91,300
Recurrent	-	1,000	6,000	10,000	13,000

Posts and Telegraphs

Projects PT 01 to PT 12 have been terminated.

PT 13: Carrier Transmission Circuits:

There has been an enormous increase in the number of trunk calls handled daily between Gaberones, Mahalapye, Palapye, Francistown and Bulawayo. This has resulted in long delays in making calls, often leading to substantial loss of revenue. It is therefore, proposed to provide additional circuits by installing 12 channel carrier transmission systems between Gaberones and Mahalapye (cost R22,000) Mahalapye and Francistown (cost R21,500) and Francistown and Bulawayo (cost of Francistown terminal R6,500). It is estimated that the resulting increase in revenue should be sufficient to repay a loan within two years.

The line between Gaberones and Lobatsi is under heavy pressure and, to reduce this and to provide a speedier service, subscriber trunk dialling is to be introduced. This however, cannot be done until the number of trunk channels has been increased. Furthermore, additional circuits are needed to provide more inter-territorial trunk outlets from Gaberones to Johannesburg via Lobatsi. The cost of the equipment is R13,000 and it is anticipated that the additional revenue generated will be enough to repay a loan within two years.

In 1968/69 it is also proposed that a new telephone line be built between Francistown and Selibe. Carrier transmission equipment will be needed to provide an adequate number of circuits and to ensure that speech reception is satisfactory. The cost of the equipment is R14,000; revenue from the new circuits should be sufficient to repay a loan for the carrier equipment plus the cost of constructing the physical line (detailed elsewhere) in about four years.

In the years 1969/70, 1970/71, 1971/72 and 1972/73 carrier transmission circuits will be installed for reasons similar to those detailed in the examples above, along lines connecting a wide range of important towns and villages in Botswana. Amongst the lines to be so improved

in 1969/70 are Mahalapye to Serowe, Francistown to Matsitamma and Gaberones-Molepolole. Whilst in 1970/71 lines such as Lobatsi to Pitsani, Gaberones to Mochudi and Lobatsi to Kanye are scheduled for improvement. The year 1971/72 will bring carrier transmission circuits to lines between places such as Lobatsi and Ootsi and Gaberones and Ramoutsa. Scheduled for 1972/73 are, amongst others, the lines between Selibe and Sefhare, Lobatsi and Molopo and Francistown and Sebinas. The total capital expenditure over the years 1968/69 to 1972/73 on carrier transmission circuits (detailed below) totals R249,000, and each individual project comprising this total is expected to generate sufficient revenue to repay the necessary loans.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	77,000	62,000	41,000	57,000	12,000
Recurrent	Provided for in Ordinary Budget.				

PT 14: Telephone Exchanges Equipment:

To expand the telecommunications service additional telephone instruments, switching type telephones and small switchboards are required. The conversion of Public Call offices to automatic working is also vital before exchanges can be converted to automatic working. The present Public Call Offices on existing automatic exchanges are manual and need to be converted to automatic working in order that the public may dial their own numbers and thus help to relieve the pressure on the existing manual boards. Trunk dialling equipment is necessary on existing automatic exchanges to allow first, operators to dial distant exchange numbers and later subscribers to dial their own trunk calls.

Under the programme to convert exchanges to automatic working there are twenty-six individual projects totalling a capital expenditure of R383,100. These include an extension to the Gaberones exchange, and new automatic exchanges at Tonota/Shashi, Serowe and Palapye. The total capital expenditure on telephone exchanges is as set out below:

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	93,500	129,500	62,500	97,600	—
Recurrent	Provided for in Ordinary Budget.				

PT 15: New Telephone Lines:

The expansion of the telecommunications network, involves not only the improvement of existing services but expansion to encompass areas not currently served. A total capital expenditure during the years 1968/69 to 1972/73 of R230,000 is envisaged, covering thirteen individual projects. The most important of these are described below.

Trunk lines will be established (1968/69) between Francistown and Selibe and Francistown and Matsitamma at a total cost of R53,000. These developments are necessitated by the mining activities in these areas. It is planned to install land lines initially along both routes and then to use carrier transmission equipment to provide additional circuits as traffic expands.

Another area of expansion is Maun, which at present, is without any telecommunications other than the Police radio. Ngamiland is becoming an increasingly significant part of the country and numerous safari companies are making Maun their headquarters. It is proposed to introduce radio telephony between Maun and Gaborone as a short term solution, but it is desirable that a land line be constructed so that international standards for trunk telephone calls can be complied with. In the years 1969/70 and 1970/71 some R90,000 will be needed to effect this change, but as calls will be long distance and of high value, the revenue which the land line will generate will cover the capital cost in five to six years.

Inter-territorial expansion is also envisaged, it is therefore desired to arrange an additional outlet from Botswana to the Republic of South Africa in order to facilitate the handling of trunk calls to and from Northern areas and in particular the Tuli Block. The capital cost of the Botswana portion of the line will be R9,000 and revenue should cover this within five years.

The total expenditure on new lines is phased as indicated below:—

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	93,500	10,000	70,000	46,500	10,000
Recurrent	Provided for in Ordinary Budget.				

PT 16: Telegraph Equipment

The few existing telex services in Botswana are connected by courtesy, and as a temporary arrangement, to telex switchboards in neighbouring territories. There is a growing demand for this modern, efficient and highly profitable means of telecommunications, and it is therefore desirable that Botswana establish its own telex exchange as early as possible. An amount of R30,000 is needed in 1968/69 for the telex exchange itself, a further R8,000 for the purchase of telex machines plus R5,000 for apparatus to provide additional trunk telegraph channels for the system. These channels and telexes will be installed in 1969/70.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	43,000	17,000	17,000	35,000	—
Recurrent	Provided for in Ordinary Budget.				

PT 17: Radio Communications Equipment:

In those areas of Botswana where it is, at the moment, not feasible to supply normal telecommunication facilities, but where there is a definite and urgent need for some form of rapid communication it is proposed to install radio links. The strong possibility of diamond mining in the Letlhakane area makes this one such area. Thus a radio link between Letlhakane and Gaborone is proposed (1968/69) until such time as a land line can be constructed. Revenue from trunk calls will cover the cost (R5,850) of the radio equipment within two years. Maun also is at present without any telecommunication other than the Police radio. As Ngamiland is becoming an increasingly important part of the country, with a major portion of the U.N. Special Fund Surveys and Training Scheme there and numerous safari companies located at Maun, it is important that this situation be rectified. It is proposed to

install a radio link (1968/69). A land line will be constructed later and the radio equipment then moved and used elsewhere. The revenue from trunk calls will meet the capital cost of R13,500 for radio equipment within two years. Similarly in 1969/70 it is proposed to link a newly established telephone exchange at Ghanzi to the Gaberones exchange by radio, there again revenue will cover capital costs within four years.

A Radio Call Service is a new type service which it is desired to introduce to Botswana. It is used extensively in many African countries where conditions are similar to those existing in Botswana. It is proposed that the Department of Posts and Telegraphs shall provide a transmitter and receiver at a central control point, thus permitting subscribers living in areas where telephone services are unlikely to be provided, to purchase privately equipment which will work with the radio equipment exchange. Revenue will be earned by placing a charge on trunk calls from the radio exchange to the called exchange. This development is planned for 1969/70 and will cost R5,000, but it is expected that revenue will cover this cost in four to five years.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	19,400	9,500	2,000	-	-
Recurrent		Provided for in Ordinary Budget.			

PT 18: Underground Cabling:

This section of the Department of Posts and Telegraphs expansion programme is designed to establish a local line network for subscribers to the telephone services in villages which are to have new telephone exchanges. This will involve the purchase and installation of large quantities of underground cable. The villages and towns primarily concerned are Ghanzi, Sedibeng and Sequani in 1968/69 and Matsitamma, Selibe and Letlhakane in 1969/70.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	41,100	35,000	35,000	-	-
Recurrent		Provided for in Ordinary Budget.			

PT 19: Post Offices and Telephone Exchanges

During the period 1968/69 to 1972/73 a considerable expansion of post office facilities is envisaged. During the year 1968/69 it is intended to build new Post Offices at the following centres: Tsabong, Rakops, Bobonong and Letlhakane, all of which are important centres serving areas without proper postal services; at Thamaga, the seventh largest settlement in Botswana, with 11,000 people; at Sedibeng in the centre of a fine arable farming area and the site of an Agricultural Department research programme; at Kasane administrative centre of the Chobe District and take-off point for many safaris; at Maun where the existing post office is totally inadequate and which will become more so as Ngamiland develops further. With the exception of the buildings to be erected at Kasane (R8,000) and Maun (R25,000) each building will cost between R2,400 and R2,600, and in every instance the revenue generated will be sufficient to repay a loan within five years.

Other buildings are also planned in 1968/69, including an additional office accommodation (R10,300) at the Post Office Headquarters in Lobatsi in order to relieve already very cramped conditions. Also at Lobatsi, an extension to the sorting office (R3,200) is required as it is becoming increasingly difficult to handle a rapidly growing volume of mail owing to a shortage of space. In Palapye a new telephone exchange building and alterations to the existing post office building (R3,500) are proposed in order to enlarge the sorting room which has proved to be inadequate. New telephone exchanges will also be built at Molepolole (R2,000), Tonota (R2,000), Gaberones Village (R2,000) and Gaberones Industrial Area (R2,000).

The building programme for 1969/70 encompasses a new post office at Selibe and at Matsitamma to provide postal and telephone services in the copper mining area, whilst at Letlhakane the diamond mining area will be served by a new post office. Ghanzi is scheduled for a new telephone exchange building and Gaberones for two buildings to house branch automatic exchanges.

Expansions and alterations are also planned for Serowe and Tonota/Shashi. The postal revenue which will be generated at Selibe, Matsitamma and Letlhakane should repay a loan for the capital cost of the buildings within four years, whilst the projects at Ghanzi, Gaberones, Serowe and Tonota/Shashi should produce sufficient revenue to repay costs within two or three years.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	73 200	70 000	-	-	-
Recurrent	Provided for in Ordinary Budget.				

Public Works Department

PW 01: Lobatsi-Gaberones Road:

The Gaberones to Lobatsi road links two of the main centres of population and is now the heaviest travelled road in Botswana and the busiest stretch of the main North-South road. The distance from Gaberones to Lobatsi is forty four miles and, of this, forty miles is a two-lane earth road minimally strengthened in parts with small areas of gravel.

In 1962, before the new capital at Gaberones was built, the traffic count was 120 passenger car units per day, this has now increased to 314 per day, and the last annual increase was thirty per cent. A considerable amount of work by way of constructing bridges and easing the worst bends has recently been carried out but nevertheless the present running surface is inadequate for present traffic and without suitable construction and a bitumen surface, maintenance work cannot keep pace with wear and tear.

Considerable lengths of the formation are to adequate alignment and gradient and no new major structures are required. The work now necessary is to realign isolated lengths and to provide a suitable surface with a bitumen seal. The proposed formation will be 34 feet wide with a 20 foot wide running surface bitumen sand seal.

During 1968/69 it is proposed to upgrade and gravel the worst stretches. Detailed planning of the major works will also be undertaken by consultants. The execution of these works and the bituminising of the surface will be phased over the following three years.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	100,000	400,000	400,000	400,000	-
Recurrent	-	-	-	-	-

PW 02: Gaberones Sewerage:

The original planning of Gaberones provided for sewerage to meet the anticipated requirements of a township of about 8,000. The population has

already reached 18,000 and is growing steadily. A number of new extensions to the township are planned and, as a result, the sewerage system must be extended. Detailed estimates of this work have still to be worked out, but a tentative projection of costs is given below. Since these expenditures arise mainly from Government's extensive housing programme and may be considered as the final stage of the capital project, the financing of this scheme is regarded as Central Government's responsibility. The running and maintenance of the sewerage system will be a Gaberones Town Council responsibility.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	100,000	100,000	50,000	-	-
Recurrent	-	-	-	-	-

PW 03: Gaberones Township Roads:

As a result of the rapid expansion of Gaberones, a number of new roads in the new extension areas will be required during the Plan period. In the case of much used roads, bitumen surfaces are required to prevent the dust menace to health and to reduce the machine maintenance costs. Many of the roads will be carrying several hundred vehicles a day; gravel surfaces cannot be properly maintained under such circumstances.

Since these expenditures are mainly necessitated by Government's extensive housing programme, and may be considered as the final stage in the completion of the capital project, the financing of this project in the first two years only is accepted as a Central Government responsibility. The roads must be maintained by the Gaberones Town Council which is also responsible for the capital expenditures after 1969/70.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	25,000	75,000	50,000	50,000	50,000
Recurrent	-	-	-	-	-

PW 04: Tlokweng Drainage:

As a result of the construction of the new road from Gaberones to the border, the normal storm water drainage around Tlokweng Village has proved inadequate. The presence of the new road tends to concentrate the flow at the eastern side of the village resulting in flooding and damage to property.

New flow channels have been planned and sited with the assistance of aerial photographs. Funds are required for their construction in order to protect Tlokweng Village from further damage.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	10 000	—	—	—	—
Recurrent	—	—	—	—	—

PW 05: Gaberones-Border Road:

Project completed.

PW 06: North-South Road

Funds provided by the International Development Association have enabled a number of key betterment works and bridges to be completed on the North-South Trunk Road. Regrettably, insufficient funds were available to carry out all the improvements warranted by the volume of traffic.

In this Plan it is proposed to bring a total of 75 miles of the main road south of Mahalapye up to all weather standards with a gravel surface and necessary drainage. When this has been completed the road will be all weather from Gaberones to the Rhodesian border.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	—	100 000	100 000	100 000	—
Recurrent	—	—	—	—	—

PW 07: Improvement of Main Roads

This project is mainly concerned with the improvement of the following roads:

- (a) Lobatsi-Kanye
- (b) Kanye-Molepolole
- (c) Ramoutsa-Thamaga
- (d) Sebinas-Tonota
- (e) Lobatsi Molopo Farms

A number of the existing river crossings need to be improved by the construction of new bridges. In addition culverts and better drainage are also required to prevent flooding, so that the roads are made passable in all weather. On some of the roads stretches of sand will be gravelled.

The actual allocation of funds between the various roads will be decided after the completion of preliminary studies, depending on the present and projected vehicle densities on particular routes.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	50,000	100,000	100,000	100,000	100,000
Recurrent	Provided for in Ordinary Budget.				

PW 08: Township and Village Roads:

In addition to the provision made in Project PW 03, funds are required to bitumenise a number of roads and streets in the townships and main villages. This is desirable in the interests of health, as well as to reduce excessive maintenance costs on those sections which are most heavily used.

In all, it is estimated that there are some 30 miles in the main centres where the need for a bitumen cover is particularly pressing. In most cases roads require reconstruction, the provision of a base course under the bitumen seal. Proper surface water drainage is also necessary.

Work on this project is related to the preparation of proper town plans, and, since it is intended that this design work will proceed in stages, planned expenditure and funds have been phased with this limitation in mind.

Except where main roads are involved, these works are the responsibility of Town and District Councils. Central Government will provide, where requested, the necessary technical advice.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	35,000	35,000	35,000	35,000
Recurrent		responsibility of local Councils.			

PW 09: Road Maintenance Training:

This project is now provided for on the Ordinary Budget.

PW 10: Road Depots:

Road depots are required at regular intervals along all roads maintained by Central Government. Each depot provides housing for the Road Section Officer and his staff, offices and stores and a security yard.

It is proposed to continue to construct depots systematically to accommodate staff as they are trained. Eventually thirty such depots will be required, and a further eleven major central depots for Road Supervisors.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	45,000	45,000	30,000	-	-
Recurrent		provided for in Ordinary Budget.			

PW 11: Airfield Improvements:

In a country where the population centres are separated by vast distances of arid and largely uninhabited land, an air service can provide a cheap and flexible means of communication. Botswana has its own airline which links the main centres with Livingstone, Bulawayo and Johannesburg.

Many of the airfields at present used by Botswana National Airways are of an unsatisfactory standard. During the plan period it is intended to carry out a series of improvements to the runways to allow Douglas DC3 and similar aircraft to operate from them without danger in all weather. In addition navigational aids and other airfield facilities are to be provided where necessary. All airfields are to be made game proof.

The improvements will be phased as follows:

1968/69 Maun and Serondelas
1969/70 Lobatse and Ghanzi
1970/73 Mahalapye and Serowe

A preliminary survey has just been completed by two experts and the detailed allocation of funds will await their final report. Small improvements will also be undertaken on minor airfields.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	52,500	100,000	100,000	10,000	10,000
Recurrent	-	9,000	10,000	10,500	11,000

PW 12: Gaberones Airfield:

The present runway, together with the taxiway and apron, provides all weather landing and take off facilities for DC-3 and similar aircraft; the occasional DC-4 and viscount aircraft can be accommodated but the runway, which is 5,000 feet long, is too short for the normal operations of such aircraft.

The DC-3 aircraft at present operated by Botswana National Airways is no longer suitable for regional flights; the Gaberones airfield must therefore be improved to accommodate larger and more modern aircraft. It is, therefore, proposed to lengthen the runway northwards by 2,500 feet, widen it from 80 feet to 100 feet and to strengthen its pavement. These developments would enable Botswana National Airways to operate initially a DC-4 (Skymaster) between Gaberones, Johannesburg and Lusaka, and later a Vickers Viscount Series 700. Zambian Airways are interested in introducing BAC 111 on the Gaberones to Lusaka route.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	150,000	150,000	50,000	-	-
Recurrent	-	2,500	5,000	7,500	10,000

PW 13: Mechanical Workshops:

The Central Mechanical Workshop in Gaberones is the main Government workshop within the country for the repair and maintenance of

Government vehicles, road plant and similar equipment. Associated with the Gaberones workshop, there are four subsidiary workshops situated at Lobatsi, Mahalapye, Francistown and Maun.

Recently additional buildings and equipment has been provided for the Gaberones workshop. During the Plan period it is proposed to establish a small new workshop at Kasane, and to make improvements to the Maun workshop.

Activity in the Kasane area is increasing as a result of efforts to establish a tourist industry. Repairs to the vehicles in this area are carried out at present either in Rhodesia or at Maun, both alternatives being costly and inconvenient. It is, therefore, proposed during 1968/69 to construct a single covered vehicle bay, lock up store and vehicle ramp and equip the depot with tools and a breakdown vehicle. Improvements in the Maun workshop will be carried out in 1969/70.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	4 500	4 000	-	-	-
Recurrent	-	1 500	1 800	2 000	2 300

PW 14: Rural Electrification:

Most of the major population centres outside the gazetted townships are without any public electricity supply. It is proposed during the Plan period to instal small diesel power plants at several main centres as follows:

1968/69 Maun
1969/70 Serowe
1970/71 Kanye
1971/72 Molepolole

If it can be shown that any of the latter three (or any other place) can support a small diesel generator and distribution system on a commercial basis at an earlier date, the relevant project may be brought forward. It is anticipated that all these schemes will be loan worthy and will be operated on a commercial basis.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	31 800	100 000	45 000	85 000	-
Recurrent	projects will be self-financing.				

PW 15: Government Housing:

In recent years Government has been obliged to allocate a large proportion of available development funds for housing. As explained in Chapter X this has been due to the following factors:

- the Public Service has been expanded rapidly to permit efficient administration of the development programme;
- private housing is very scarce especially in Gaberones and Francistown.

Investment in housing had been particularly heavy during the establishment of the new capital at Gaberones and the final phase of the move from Mafeking has still to be completed. Although it is desirable for home ownership to be encouraged, especially among civil servants, suitable mortgage finance schemes have yet to be started. It is hoped that a private building society will be established in Botswana very soon and it is intended that adequate mortgage finance should be made available. In addition the subsidisation of house rentals by Government will be progressively phased out during the Plan period. In view of these measures it is anticipated that the level of expenditure by Government on housing may be steadily reduced. There will be, however, even at the end of the Plan period a residual housing project, partly arising from the requirements of non-local contract officers, and partly to meet the needs of Government cadres subject to district postings. In allocating expenditure to housing the greatest economy possible has been exercised, but it must be recognised that without available housing high level technical and professional officers cannot be recruited abroad.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	838 500	500 000	300 000	250 000	200 000
Recurrent	-	7 000	12 000	15 000	18 000

PW 16: Administrative Buildings:

In 1967/68 a new one storey-office block was built to accommodate the whole of the Ministry of Agriculture. This relieved the pressure for

office space temporarily, but accommodation is required immediately in Gaberones for the Department of Surveys and Lands. It is therefore anticipated that further construction must be undertaken in 1969/70. The normal expansion of Government will certainly give rise to further requirements in 1971/72. With the expansion of mining anticipated in Chapter VII, most Governmental services will need strengthening and that will automatically mean more staff and more offices. It is therefore necessary to make provision for expenditure on administrative buildings in 1969/70 and 1971/72. R10,000 is allocated for 1968/69 for the completion of the extensions to State House; the remainder is required for the completion of the building housing the Government Printer.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	56,000	100,000	-	150,000	-
Recurrent	-	100	900	900	1,900

PW 17: Meteorological Equipment:

As explained in Chapter VIII the Botswana Weather Bureau exists to supply vital weather information for civil aviation needs and to collect climatological data for development purposes. Provision is made in this Plan for the purchase of equipment for the development of existing and projected weather stations and associated meteorological services.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	6,000	12,100	9,500	4,300	4,300
Recurrent	-	700	800	900	1,000

PW 18: Nata-Kazungula Road:

At present the most northern district of Botswana - Chobe District - is isolated from the rest of the country. Kasane can only be reached by a four-wheel drive vehicle along unmaintained sand tracks; most of the traffic is therefore forced to travel via Rhodesia. Now that the tourist potential of the Chobe National Park is being developed, it is important that there should be an all weather road link with the south.

Such a road would also provide easy direct access to Zambia via the Kazungula Ferry. Furthermore a new road from Nata to Kazungula would enable the fertile area around Panda-ma-Tenga to be developed. The economic viability of the proposed new road, which would be approximately 190 miles long and built to minimum all-weather gravel standards, would depend partly on a guaranteed level of traffic and consideration will be given to instituting a toll system.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	835,300	835,300	-	-
Recurrent		to be met from tolls.			

PW 19: Chobe-Kasane Road:

The road linking Kasane to Ngoma and Maun passes along the riverine stretch of the Chobe National Park. This is the best game viewing area of the Park, and the passage of heavy vehicles at frequent intervals frightens the game and thereby greatly reduces the attractiveness of the Park from a tourists' point of view. The development of forest reserves, which lie mainly to the South of the Kachikau Enclave, depends on the presence of a suitable route for the extraction of the timber. It is, therefore, proposed to construct an all weather gravel road 5 to 10 miles south of the Chobe River linking Ngoma to Kasane. In the interests of the development of Kasane Township, the new road must be constructed to by-pass the centre of the town.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	250,000	43,000	-	-	-
Recurrent	-	6,800	7,000	7,200	7,400

PW 20: Gaberones Power Station:

The Gaberones Power Station supplies both Gaberones and Lobatsi Townships, as described in Chapter VIII. The rise in demand for electricity has been much more rapid than was anticipated when the capital was being planned. Current projections of peak load requirements are as follows:

1968	3,300 KW
1969	4,100 KW
1970	4,800 KW
1971	5,520 KW
1972	6,348 KW

Provision is made in this Plan to meet the cost of additional generating equipment and of extensions to the distribution system in Lobatsi and Gaberones. At present consultants are investigating these requirements with a view to making recommendations for a phased expansion consistent with the basic requirement that the utility be operated on a commercially viable basis. At present the power station is run by Gaberones Water and Electricity Unit (GWEU), which is a self accounting unit within the Ministry of Works and Communications. Consideration will be given to establishing the GWEU as a statutory corporation.

In 1968/69 a new 1000KW diesel generator will be installed; providing the necessary flexibility to cope with diurnal variations in load. The installation of additional generating capacity thereafter will depend on the consultants' report; provision is made, however for an expenditure of R250,000 in 1970/71. Provision is also made for the expansion of the distribution systems in Gaberones (R385,000) and in Lobatsi (R185,000).

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	320,500	130,000	360,000	50,000	50,000
Recurrent		self-financing			

PW 21: Francistown Power Station:

Partly as a result of mining developments in the north and partly arising from the development of light industry, the pace of development in Francistown has quickened with a consequent increase in electricity consumption. It is anticipated that within four years, Francistown will be able to obtain its electricity supplies from the Shashi Complex. Meanwhile additional diesel generating capacity is required to meet immediate demand. Consultants have recommended additions to raise the safe capacity from 250 KW to 550 KW at a cost of R70,000.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	70,000	-	-	-	-
Recurrent		project to the self-financing			

Surveys and Lands

SG 01: Survey Technician Training:

Provided for in Ordinary Budget.

SG 02: Survey Equipment:

The Department of Surveys and Lands receives frequent requests at short notice for miscellaneous large scale maps on which existing development planned with a high degree of accuracy. Although air photograph cover of Botswana is extensive, the prints in most instances are to a scale of 3,300 feet to 1 inch on which essential detail is not always readily discernible. It is therefore proposed to purchase a photographic enlarger which would enable the Department to produce rapidly mosaics of specific areas of interest to scales of 500 feet to 1 inch. Sale of mosaics to private individuals or organisations will yield new revenue.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	20 000	-	-	-
Recurrent	-	-	-	-	-

SG 03: Town and General Mapping:

In order that the planning of essential services in towns and villages may be carried out efficiently and expeditiously the Department of Surveys and Lands must have accurate medium and large scale maps at its disposal. In addition the various technical departments call upon this Department to provide maps from time to time for planning purposes. At present the Department has insufficient trained staff to prepare all the medium and large scale maps necessary for producing layout plans of townships. While the U.K. Directorate of Overseas Surveys lends much assistance in providing mapping services for the Department, it still remains necessary to a large extent to let contracts for topographical mapping. Despite the recent purchase of a photogrammetric plotter this need will continue during the Plan period while the training of stereo plotting operators proceeds.

The provision of medium scale maps is a prerequisite to the demarcation of township plots. Recent developments in the mining sector require the establishment of three new townships which must be fully planned and demarcated in the near future. Mapping of these townships is required urgently so that there will be no delays in planning the new townships.

It is planned to use the funds allocated to this project for the hire of contractors for additional aerial photography, ground control, or photogrammetric plotting singly or in various combinations

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	20,700	20,700	20,700	20,700	20,700
Recurrent	-	-	-	-	-

SG 04: Township Surveys:

The development of Botswana has generated the need for the establishment of various new townships and the extension of existing townships. At present the development of Botswana is seriously hampered by the shortage of surveyed, demarcated plots in the existing townships. In addition, the three new mining townships which have not yet been mapped will require surveys and demarcation.

Early in 1968 layout plans will have been completed and survey and demarcation will be necessary in the following townships or township extensions: Gaberones, Lobatsi, Francistown, Kasane and Ghanzi. The layout plans for the three new mining townships will be completed in early 1969. The total number of lots required for residential, commercial, and industrial purposes in existing and new townships in the 1968/70 period is estimated at 6,000. However, the present staff of the Department of Surveys and Lands is unable to handle this backlog, and it is considered necessary to let contracts for most township survey work to private firms. In this way the outstanding work may be completed by December, 1969.

For the purpose of planning, the work will be divided into four areas comprising

- (1) Kasane and Francistown
- (2) Gaberones
- (3) Lobatsi and Ghanzi
- (4) Mining Townships

To overcome the most immediate and urgent problems, an initial predetermined number of plots will be laid out in each of the townships, and thereafter the work will be completed according to the relative strength of the demands.

It is essential that the development of existing townships not be hindered by any shortage of surveyed demarcated plots as is the case at present. It is also essential that sufficient surveyed, demarcated plots be made available in the new mining townships prior to the commencement of mining operations in order that mining may start without delay.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	33 000	33 000	-	-	-
Recurrent	-	-	-	-	-

Veterinary Department

VE 01: Caprivi Border Fences:

As a result of the findings of a Boundary Commission, which demarcated the common border between South West Africa and Botswana, it was decided that a border fence was required in various places to prevent cattle straying from one country to the other. The absence of a stock-proof fence greatly increases the risk to both countries of the spreading of disease. The allocation of costs between the two countries has been agreed, and the financial provision made in this project represents the cost of work to be undertaken by the Botswana Government to complete its obligations.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	9 500	-	-	-	-
Recurrent	-	-	-	-	-

VE 02: Disease Control Fences:

Botswana is divided into four sections (Ngamiland, Western Bamatwato, Eastern Bamatwato, including the Tati and Tuli Block, and Southern Botswana) by veterinary fences designed to prevent the spread of diseases from an infected section to any other. However, as these are only single fences, it is sometimes possible for diseases to spread from one section to neighbouring ones. As a result, when there is Foot and Mouth Disease in the Rakops area of the Western Bamatwato, where it frequently occurs, importers will not accept beef from any of the three northern sections.

It is therefore proposed to construct a new fence from Makalamabedi, 100 miles north-east, designed to prevent the migration of buffalo from the Okavango Swamps north of Shorobe to the Botletle River. It has been shown often elsewhere that buffalo present a major risk to cattle through spreading Foot and Mouth Disease.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	25,000	-	-	-
Recurrent	-	-	2 000	2 000	2,000

VE 03: Bull Subsidy Scheme:

The Veterinary Department has established two pedigree herds, one Afrikander and the other Brahmin, with the aim of supplying improved bulls to stock-owners. The herds are based on a newly purchased farm near Lobatsi and Ramatlabama. The Bull Subsidy Scheme is to be operated in conjunction with these herds so that farmers can buy improved bulls at subsidised prices. As these herds can only supply a small proportion of the improved bulls required by stockowners, bulls are also to be bought for resale, at half the purchase price plus R5 per bull charge to meet administrative expenses, from established breeders.

The Bull Subsidy Scheme is financed from the Cattle Export Levy Fund and administered by the Government on advice received from the Livestock Industry Advisory Committee. Between 700 and 800 bulls will be made available each year.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	30 000	30,000	30,000	30,000	30,000
Recurrent	-	-	-	-	-

VE 04: Karakul Sheep Subsidy Scheme:

The Karakul pelt is much in demand and could become a valuable export for Botswana. Karakul sheep breeding is highly successful in neighbouring South West Africa and there is a good opportunity for expanding this industry into South West Botswana. This part of the country is isolated from livestock markets; the local farmers depend for their livelihoods on finding a product which prospers under severe desert conditions and is also easily marketable. The Karakul sheep meets these requirements.

In 1965 over 4,000 pelts were sold at an average price of R5 each. The Veterinary Department has already achieved considerable success in up-grading the quality of the existing Karakul sheep by selective breeding. In order to promote

this industry it is proposed to establish a stud flock between 300 and 400 Karakul sheep. The flock will be kept at a demonstration farm providing an extension service to local breeders. High quality rams will be sold to stockowners at subsidised prices. The costs of this scheme will be met from the Cattle Export Levy Fund.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	5,000	5,000	5,000	5,000	5,000
Recurrent	-	-	-	-	-

VE 05: Dorper Sheep and Boer Goat Subsidy Scheme:

There are in Botswana some 250,000 sheep, the majority of which are round-ribbed Afrikaner. However, in 1965, the value of live sheep and mutton exported totalled together only R45,000. A considerable increase could be achieved by up-grading the quality of the stock. By cross breeding with imported Dorper rams a rapid improvement in mutton quality is possible.

It is proposed to promote this development by purchase each year of 200 to 300 high quality Dorper rams in the Republic of South Africa to be distributed at subsidised prices to approved stock-owners. The cost of this scheme will be met from the Cattle Export Levy Fund.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	5,000	5,000	5,000	5,000	5,000
Recurrent	-	-	-	-	-

VE 06: Artificial Insemination Scheme:

The Government proposes to initiate a programme of artificial insemination to develop the quality of the national herd at the lowest possible cost. An artificial insemination programme is the only way the national herd can be improved dramatically, since the semen provided is that of bulls whose progeny have been proved, whereas the bulls purchased through the Bull Subsidy scheme are of generally lower quality and their progeny have not been proved.

Three pilot artificial insemination centres have been started at Good Hope in south Botswana, Debeeti in central Botswana and Ghanzi in west Botswana in 1967/68. To achieve optimum results with an artificial insemination programme in Botswana, where the system of cattle farming in tribal areas is uncontrolled due to lack of fencing, it is necessary to hold cows in camps where the environment can be controlled and bulls may be excluded. The period of confinement considered necessary to achieve optimum results is up to three months.

It is planned to establish eight fenced camps of 4,000 acres each, divided into 6 paddocks, with collecting kraal and crush, water supplies and rondavels for staff. Two schemes at Debeeti and Ghanzi are already operating in the pilot programme but require additional equipment for water supplies; the remaining six camps would be established adjacent to present veterinary quarantine camps or holding grounds to minimise the fencing required. The development of two camps per year is planned.

Each 4,000 acre camp will be able to accommodate 500 cattle continuously. During the breeding season of six to eight months in Botswana it will therefore be possible to serve 1,000 cattle in each camp. This level will be reached only in the second year of operation at each camp; it is estimated that 600 cattle will be served in the first year of operation at each camp. Funds will be required for water supplies, kraals and crushes, housing, fencing vehicles and various equipment. The recurrent costs in the first year have been capitalised.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	42,300	22,200	22,200	22,200	-
Recurrent	-	31,200	41,900	55,200	57,000

VE 07: Foot and Mouth Disease Research:

Past experience has shown that serious outbreaks of Foot and Mouth Disease can cripple the entire livestock industry in Botswana. It is therefore essential that active research be under-

taken in an effort to find ways and means of obtaining control over the disease and thereby reduce, if not eliminate, its incidence. Experimental work so far conducted by the Department of Veterinary Services has demonstrated that by inoculating cattle with specially prepared vaccines a very high level of immunity can be obtained.

A field laboratory is being established at Motopi with U.K. research funds in collaboration with the Animal Virus Research Laboratory at Pirbright. Provision is made in this project for the continuation of this research work.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	19,200	-	-	-	-
Recurrent	-	5,500	5,800	5,800	6,000

VE 08: Hides and Skins Improvement:

Botswana currently exports over 150,000 hides and 50,000 skins each year. At present few facilities exist for the processing of hides and skins and the majority of the population is ignorant of the best techniques to use in this work. As a result the quality of the final article is poor and low prices are obtained. It is considered that the establishment of an extension service, together with modest processing facilities, would produce a significant improvement in the value of the country's hides and skins exports.

It is therefore proposed that a new Hides and Skins Improvement Service within the Department of Veterinary Services should be formed to be staffed by four Hides and Skins Improvement Officers and twelve demonstrators, all under a senior officer. Housing and vehicles for this staff will be required. This team will be responsible for the construction of fifty hides and skin sheds which will shade special drying frames. The extension staff will teach correct flaying, handling, preparing and storing of hides and skins. A fee will be charged for the use of the sheds. Recurrent expenditure in the first year has been capitalised.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	39,500	9,900	9,300	9,300	9,300
Recurrent	-	14,800	13,400	16,000	16,500

VE 09: Holding Ground, Phuduhudu:

At present cattle are trekked from the Ghanzi area to Lobatsi. Between Ghanzi and Kang there is a long stretch where there are no local herds of cattle, but thereafter the trekked cattle come into frequent contact with local herds in south-east Botswana, which is a Foot and Mouth Disease-free zone. The Ghanzi area is in contact with Ngamiland and South West Africa, both of which are prone to outbreaks of Foot and Mouth Disease. It is thus considered important that cattle crossing the stock-free area to the east of Ghanzi (which forms a barrier against the spread of disease) should be quarantined at a new holding ground to be established at Phuduhudu. This would ensure that Foot and Mouth Disease is not introduced into the stock population of southern Botswana. An outbreak near Lobatsi would have disastrous consequences for the cattle industry.

Provision is made in this project for a 50,000 acre camp, double perimeter fenced with four internal paddocks, two of which are separated from the remainder by double fences so that one quarantine may be operated as a double quarantine when necessary. Water supplies and housing for staff will also be required.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	25,000	-	-	-	-
Recurrent	Self-financing.				

VE 10: Tapeworm Eradication Campaign:

The incidence of measles in cattle slaughtered at the Lobatsi abattoir rose to approximately 15% in 1967, and thereby caused considerable financial loss. This problem can only be tackled by the eradication of tapeworms in humans by persuading the population to adopt proper sanitary measures.

It is proposed to conduct a pilot project designed to reduce the incidence of measles through a public health programme and curative measures. A team consisting of technical officers, drawn from the Veterinary, Medical, Agriculture and Information Departments will tour selected areas. The results of the pilot project will be used for the planning of a large scale programme throughout the country at a later date. Recurrent costs are partly provided for on the Ordinary Budget and partly capitalised.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	10 000	10 000	20 000	20 000	20 000
Recurrent	-	-	-	-	-

VE 11: Streptothricosis Control:

Some fifteen years ago there were approximately 15,000 head of cattle in the Kachikau area of the Chobe District in northern Botswana. Streptothricosis, possibly combined with Trypanosomiasis, caused such heavy mortality that the cattle population was reduced to less than 3,000. Since then it has never recovered, and at present only 4,000 head of cattle are found in this area. This has been so despite the partial eradication of tsetse fly.

A recent investigation revealed that streptothricosis continues to cause large losses amongst the local cattle herds. Provision is made in this project for measures to control this skin disease. It is proposed to construct five dipping tanks, so that all cattle may be treated regularly against ticks and flying insects. Funds will be required to house and equip the staff who will run the project. Recurrent costs in the first year have been capitalised.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	13 000	-	-	-	-
Recurrent	-	5 800	5 700	5 900	6 100

VE 12: Animal Health Training:

In view of the dependence of Botswana on its livestock industry it is essential to make provi-

sion for the training of extension workers in animal health. A pioneer effort in this field was made with the establishment of a small veterinary school at Ramatlabama in 1954. It has been found that the development of this school at Ramatlabama would be expensive and difficult due to its relative isolation.

It is now proposed to establish a new institution in association with the Agricultural Demonstrator Training College at Content Farm, near Gaberones. The sharing of facilities would result in numerous economies. There is also some advantage in placing those two institutions together, so that there may be an interchange of staff.

Training is required in particular for the following:-

- in-service training for Cattle Guards and veterinary assistants;
- basic training of school leavers for appointment to stock inspector posts;
- training of managerial stock-men for large ranches;
- ad hoc specialised courses in dairying, poultry, artificial insemination, meat inspection, etc;
- in-service training for stock-inspectors and livestock officers.

Provision is made in this project for new classrooms, offices, hostel accommodation, housing and equipment.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	82 000	-	-	-
Recurrent	-	-	32 000	33 000	34 000

VE 13: Kuli - Nojane Stock Route:

The inhabitants of Kuli and Nojane in the far west of Botswana are so isolated from the normal stock trade routes that it is virtually impossible

for them to market their cattle other than during the short periods when surface water is available in natural pans, and stock may be trekked from pan to pan. In this project it is proposed to establish four boreholes with kraaling facilities to enable stock to be driven at any time in easy stages from Nojane to the Lone Tree borehole which is on the main Ghanzi-Lobatsi stock route. A fee of 30 cents per head will be levied on stock trekked from Kuli-Nojane to Lobatsi.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	11,400	-	-	-
Recurrent	-	1,300	2,800	2,700	2,800

VE 14: Makalamabedi Grazing Scheme:

It is proposed to establish a grazing scheme in the Northern State Lands to give the following benefits:-

- to relieve pressure on the Batawana grazing lands;
- to enable owners to obtain better prices for their cattle and produce more meat for the country's export trade;
- to control over-grazing in the Northern State Lands and put damaged areas under proper land use;
- to open up good grazing land which has a poor potential supply of sub-surface water by pumping from the Botletle river.

The scheme proposed is of a pilot nature and will provide valuable information about the technical and administrative problems to be encountered in opening up a very much larger area of State Land in the immediate vicinity of the pilot scheme. It is proposed to implement the pilot scheme in two parts as follows:-

Area A: an area of approximately 64 square miles bounded on the south by the Botletle River, on the west by Makalamabedi Quarantine and on the north by the new Francistown/Maun road. Cattle will water at the river, within seven fenced areas, with an approximate depth of 3 miles from the river.

Area B: an area of 64 square miles, with its southern base line along the new Francistown/Maun Road, stretching eight miles east and west of Motopi Veterinary Camp. The area will be four miles in depth north of this line. The area will be watered by pumping from a pool in the Botletle River to four tanks, each two miles north of the main road and each in line east and west four miles apart. The area will be divided into 16 fenced areas of four square miles each, with water in one corner of the paddock.

Carrying capacity of area A is estimated at 1,500 cattle (26.6 acres per beast,) and of area B 2,000 cattle (20 acres per beast), giving a total of 3,500 cattle.

The area to be considered for further development is as follows:-

There is an additional area of approximately 200,000 acres, having an estimated average grazing capacity of 7,500 cattle which will be considered for further development. If required the scheme can be extended still further to the north and to the east. It is estimated that when the pilot scheme is established, 3,500 head of cattle will be accommodated. A grazing fee of 30 cents per head per month for 12 months will yield an annual income of R12,600.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	70,000	-	-	-	-
Recurrent		self-financing.			

Water Branch

WB 01: Borehole Maintenance Units:

As part of its plan for placing the supply of water on an economic basis, the Government would prefer to see boreholes maintained and repaired by private individuals. Alternatively, the Government will charge borehole users an economic fee for Government maintenance. Unfortunately, there are very few private individuals capable of repairing boreholes, and it will not be possible immediately to recover full costs of Government's maintenance services. However, charges will be progressively increased until the units become fully self-supporting (see Chapter III).

During 1967/68 a Mechanical Engineer was recruited to take charge of the project. Government is now in process of setting up ten maintenance bases spread over the country and constructing workshops at Gaberones and Francistown. The number of maintenance units is being increased from thirteen to twenty or twenty-four by posting additional units, as trained staff become available, to areas where there is most effective demand, in the form of paid-up deposits by borehole owners. Repairs and maintenance are only carried out where such deposits have been paid in advance. Charges are debited against these deposits on an agreed scale which is to be increased gradually until 1972/73.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	14,000	11,000	12,400	-	-
Recurrent	-	28,000	30,300	33,000	35,000

WB 02: Water Branch Training:

This project has been taken onto the Ordinary Budget.

WB 03: Water Development Planning:

It is vital to keep the investigations and planning of water development projects well in advance of implementation so that consultants

and temporary staff can be engaged in time and estimates properly prepared. Furthermore, in many cases unforeseen water needs arise, such as when mining, industrial or educational development occurs, and it is necessary to have money available to undertake investigations immediately.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	25,000	25,000	25,000	25,000	25,000
Recurrent	-	-	-	-	-

WB 04: Gaberones Water Supply:

Since the completion of the Gaberones Dam in 1965, the capital has had available a source of up to 5 million gallons a day (m.g.d.), which is sufficient for the foreseeable future. The rapid growth of Gaberones has necessitated the expansion of the treatment works in 1967/68 from 1 m.g.d. to 1½ m.g.d., and it is expected that continued expansion of the treatment works, storage reservoirs and distribution mains will be necessary to keep pace with further increases in demand. It is, of course, most important that an inadequate water supply should not become a limiting factor in the commercial and industrial growth of Gaberones. All of the projected capital improvements will be fully viable provided long term loans are available.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	18,400	50,000	130,000	100,000	100,000
Recurrent	-	-	-	-	-

WB 05: Lobatsi Water Supply:

Lobatsi with a population of about 8,000 people is the site of the Botswana Meat Commission's abattoir which is responsible for 85% of Botswana's exports. It is therefore particularly important that the water supply should keep pace with the growth of the abattoir and the town. Reticulation and storage improvements were carried out in 1966/67 with certain additional works in 1967/68. Pumping mains and treatment

works are to be increased in capacity from $\frac{1}{2}$ m.g.d. to 1 m.g.d. in 1968/69. It is proposed to increase the capacity of the dam from 2,000 acre feet to 3,000 acre feet by constructing spillway gates in 1969/70. However, despite past and planned improvements, the water supply situation in Lobatsi is now serious and is fast approaching a critical situation. With this in mind Government has decided to encourage large water users, as far as is possible, to locate themselves in Gaberones where the water supply situation is easier.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	188,000	127,000	40,000	40,000	40,000
Recurrent	-	-	-	-	-

WB 06: Mahalapye Dam:

See Project WB 17.

WB 07: Molepolole Dam:

See project WB 17.

WB 08: Gaberones-Mochudi Pipeline:

See project WB 17.

WB 09: Kanye Dam:

See project WB 17.

WB 10: Madabe Pipeline:

A dam has been constructed by the Rhodesian Government at Madabe on the Ramaquabane River which forms the boundary between Rhodesia and Botswana. At the request of the Botswana Government, the dam was built sufficiently large to supply water to both countries. In return for an agreed capital contribution of R18,400 towards the cost of the dam, the Botswana Government is entitled to use 186,000 g.p.d. Subject to satisfactory negotiations with the Railways for the purchase of a proportion of the water, it is proposed to construct a pipeline from the dam to the Tsamasa Siding, complete with pumping station.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	85,000	-	-	-	-
Recurrent	-	-	-	-	-

WB 11: Minor Urban Water Supplies:

This scheme provides for minor improvements to Government-operated water supplies where necessary. Most centres of population face serious difficulties in water supplies which require alleviation by linking up additional boreholes, constructing extra storage tanks and laying new pipes. During 1968/69 new storage and reticulation facilities will be provided at Kanye, Mochudi, Kasane and Ghanzi.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	22,500	22,500	22,500	22,500	22,500
Recurrent	-	-	-	-	-

WB 12: Water Storage and Reticulation:

Project completed.

WB 13: Rural Surface Water Supplies:

While much water development work requires expensive machinery and highly trained men, the "Ipelegeng" (Self-Help) movement has shown that much can be done by hand labour. However, attempts at dam construction without proper technical advice can be fruitless and even dangerous. It is to fulfill such needs that this scheme is being implemented. An experienced technician is being recruited to guide and train "Ipelegeng" leaders and to carry out experimental work. While some techniques are quite straight forward, others require some experimentation under Botswana conditions. To provide for such experimentation without throwing the burden of risk on the local people, provision is made for a small capital contribution from outside. This applies particularly to the construction of haffirs (or water pits sometimes having artificial catchments) in areas where other sources of water are unsuitable.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	12,500	12,500	-	-	-
Recurrent	-	-	-	-	-

WB 14: Borehole Equipping:

The equipping of most new rural boreholes is now financed under the Borehole Repayment Scheme by loan from the National Development Bank. It is also necessary to meet the estimated need for 5 boreholes per year which cannot be fitted into the categories covered by the National Development Bank loans nor financed by Local Authority or other Government Schemes.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	10,000	10,000	10,000	-	-
Recurrent	-	-	-	-	-

WB 15: Water Branch Yard:

This scheme provides for moving the existing water branch facilities from an inadequate part of the PWD area of Gaberones village to a new site in the industrial area where there is room for expansion. The building expansion occasioned by Scheme WB 01 and WB 02 have of necessity to be constructed at this new site. This scheme will enable all the water branch facilities to be situated together on a permanent site.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	8 900	-	-	-	-
Recurrent	-	-	-	-	-

WB 16: Francistown Water Supply Improvement:

Alternative new sources of water for Francistown are being considered under Scheme ID 01 Shashi Complex. The expansion of the town, however, calls for extension and improvement of the distribution system. The latter will not form part of the Shashi Complex investigations and provision is made for this work separately.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	20,000	50,000	20,000	20,000	20,000
Recurrent	-	-	-	-	-

WB 17: Major Urban Water Supplies:

This scheme is designed to provide water supplies to some of the major villages in Botswana. These are places where the present water supply is completely inadequate, the present sources being low yielding boreholes or sand drains and where there is no possibility of additional underground supplies. The main centres which will receive attention under this scheme are Mahalapye, Molepolole, Kanye and Mochudi.

Mahalapye is a growing town of 15,000 people and the main railway centre and engine depot in Botswana. The railways operate a separate water supply but that too is proving to be markedly inadequate. A consulting engineer has reported on a site for a dam costing R700,000 and yielding 1 m.g.p.d. in the worst drought year or as much as 2.8 m.g.p.d. in more normal years. A soil investigation has revealed 1,000 acres of irrigable land below the town. It is therefore hoped that domestic needs and irrigation development will combine to form a viable scheme but further detailed enquiries and analyses must be carried out before the project can proceed.

Molepolole, Kweneng District headquarters, is the third largest town in Botswana having a population of over 30,000. Here, a nearby dam site has been fully investigated and it is estimated that it could be constructed to supply 250,000 g.p.d. at a capital cost of R140,000 or 290,000 g.p.d. at a cost of R168,000. In addition to the dam itself, treatment works, clear water storage, tanks and mains will be required. Without this major improvement to the water supply the future of this large community must be precarious. Nevertheless further sociological and economic as well as engineering details are required before the scheme can be implemented.

Kanye, the administrative centre of the Ngwaketse District Council is the second largest town in Botswana having a population of more than 34,000 people. Here the water supply situation

is critical and unless a new source of water can be found it is likely that the population will have to be dispersed to other villages. There is no adequate dam site close to the town, but one 12 miles distant has been investigated in detail. The possibility of combining domestic supply with a small irrigation scheme is under consideration. Such a supply as this will be, of necessity, expensive but no serious alternative is available for the long term future of Kanye as a growing centre of population.

Mochudi, with a population exceeding 17,000 is the administrative centre of the Kgatleng District. Here also, the present water supplies are poor and there is no suitable dam site, within economic distance. It is therefore planned to pipe water from Gaberones some 25 miles away.

The pipeline would also serve villages and farms along the way. The pipeline will have a 6" diameter and a capacity of 170,000 g.p.d. under gravity. There will be a storage tank and a simple reticulation system in the village.

Fundamental to the successful implementation of these schemes will be the setting up of suitable revenue collection machinery, for it is vital that consumers pay an economic price for the water they use. It is also anticipated that small associated irrigation projects which will contribute to the viability of the individual dams, will be established.

	1968/69	1969/70	1970/71	1971/72	1972/73
	R	R	R	R	R
Capital	-	250,000	250,000	250,000	250,000
Recurrent	-	-	-	-	-

TABLE XIII: CAPITAL EXPENDITURE ON DEVELOPMENT PROJECTS

Project No.	Project Title	1968/69	1969/70	1970/71	1971/72	1972/73
Agriculture Department						
AD 02	Expansion of Extension Services	37,400	43,400	20,400	21,600	22,000
AD 03	Rural Training Centre	23,400	13,000	13,300	13,600	14,000
AD 06	Agricultural Statistics	16,000	17,700	-	19,000	20,000
AD 07	Demonstration Ranches	13,600	-	-	-	-
AD 11	Pilot Irrigation Settlement	-	24,500	7,100	-	-
AD 12	Ecological Survey of the Kalahari	10,600	3,700	-	-	-
AD 13	Mechanised Fodder and Ploughing Units	5,500	-	-	-	-
AD 14	Animal Husbandry Experimental Herds	12,000	12,000	-	-	-
AD 15	Mobile Animal Husbandry Teams	32,400	43,600	11,200	-	-
AD 16	Sandveld Pasture Research	6,900	9,300	5,500	-	-
AD 17	Naragha Valley Pilot Settlement	17,400	9,900	11,500	-	-
AD 18	Grain Storage	55,900	20,600	-	-	-
AD 19	Entomological Research	35,100	16,400	-	-	-
AD 20	Breeding Herds for Demonstration Ranches	8,700	-	-	-	-
AD 21	Gaberones Irrigation Scheme	24,500	-	-	-	-
AD 22	Quelea Control	28,400	12,000	12,000	-	-
AD 23	Pasture Investigations	-	5,200	-	-	-
AD 24	Field Trials	-	11,900	11,900	-	-
AD 25	Mopane Veld Research Sub-stations	-	16,300	-	-	-
	Community Development	325,800	259,500	92,900	54,200	56,000
CM 03	Youth Service	25,000	25,000	30,000	40,000	50,000
CM 04	Home Economics Programme	9,000	-	15,000	-	15,000
CM 05	Self-Help Schemes	10,000	15,000	20,000	25,000	35,000
	Co-operative Department	44,000	40,000	65,000	65,000	100,000
CO 01	Development of Co-operatives	18,200	-	-	-	-
CO 02	Co-operative Development Centre	-	56,400	2,500	-	-
	Ministry of Development Planning	18,200	56,400	2,500	-	-
DP 01	Consumer Survey	8,900	10,000	10,000	10,000	10,000
Education Department						
ED 01	Francistown Secondary School	73,000	89,200	20,000	-	-
ED 02	Swaneng Hill School	26,000	56,000	24,000	-	-
ED 03	Moeding Secondary School	117,500	132,500	-	-	-
ED 04	St. Joseph's Secondary School	-	20,000	-	-	-
ED 05	Kgari Sechele Secondary School	48,000	85,000	55,000	20,000	-
ED 06	Molefi Secondary School	48,000	85,000	55,000	20,000	-
ED 07	Seepapitso Secondary School	58,000	85,000	55,000	20,000	-
ED 08	Francistown Teacher Training College	86,000	-	-	-	-

Project No.	Project Title	1968/69	1969/70	1970/71	1971/72	1972/73
ED 10	School Broadcasting	-	13,800	-	-	-
ED 11	Primary School Equipment	-	40,000	40,000	40,000	40,000
ED 14	Educational Testing	-	30,000	-	-	-
ED 15	Correspondence Courses and Night Schools	-	1,200	1,200	1,200	1,200
ED 16	Tonota School	-	92,300	55,400	69,500	58,000
ED 17	Lobatsi Secondary School	49,900	117,000	-	-	-
ED 18	Primary School Improvement Programme	-	70,000	60,000	30,000	30,000
LS 02	Ministry of Education, Health and Labour	508,400	917,000	365,600	200,700	129,200
	Development of Botswana Training Centre	76,800	100,000	50,000	50,000	-
	Game Department	-	-	-	-	-
GA 01	Wildlife Conservation	43,200	31,200	-	-	-
GA 02	Development of National Parks	32,600	36,300	30,000	28,000	22,000
GA 03	Kalahari Wildlife Utilization Scheme	-	8,000	8,000	8,000	4,000
GS 01	Geological Survey	75,800	75,500	38,000	34,000	26,000
	Mineral Exploration	27,100	52,800	39,300	70,200	31,100
HA 01	Ministry of Home Affairs	-	-	-	-	-
HA 02	Bushmen Training and Settlement	45,000	18,200	17,500	19,500	18,100
HA 03	National Museum	10,000	5,000	5,000	30,000	5,000
HA 04	Prison Workshops	4,100	-	-	-	-
HA 06	Prison Welfare Officers	-	15,000	-	-	-
	National Library Service	10,000	20,000	25,000	30,000	30,000
IN 03	Information and Broadcasting	-	-	-	-	-
	Lobatsi Transmitter	-	12,000	-	-	-
ID 01	Interdepartmental Projects	-	-	-	-	-
ID 02	Shashi Complex	300,000	9,985,000	16,400,000	9,200,000	-
	Surveys and Training	499,100	509,100	481,300	255,600	-
LG 01	Ministry of Local Government and Lands	799,100	10,494,100	16,881,300	9,455,600	-
LG 03	District Council Training	10,000	21,100	21,700	22,300	23,000
	District Development	25,000	25,000	25,000	25,000	25,000
MD 01	Medical Department	35,000	46,100	46,700	47,300	48,000
MD 02	Gaberones Hospital	109,700	113,200	60,400	79,200	75,100
MD 03	Serowe Hospital	18,800	-	57,800	16,800	68,800
MD 04	Mahalapye Health Centre	21,200	63,500	48,100	16,100	44,500
MD 05	Lobatsi Hospital	24,500	29,300	15,900	112,600	-
MD 06	Gaberones Health Centre	500	1,000	3,000	-	-
MD 07	Francistown Hospital	24,900	15,000	75,200	67,700	73,300
	Maun Hospital	-	8,900	11,600	15,400	73,200

Project No.	Project Title	1968/69	1969/70	1970/71	1971/72	1972/73
MD 08	Kasane Health Centre	7,800	6,000	-	-	-
MD 12	Health Education	-	30,000	-	-	-
MD 13	Tsabong Health Centre	3,000	2,300	-	-	-
MD 14	Pilikwe Dispensary	-	5,000	-	-	-
MD 15	Palapye Health Centre	4,000	2,600	10,000	-	-
ND 01	National Development Bank	214,400	276,800	277,000	307,800	384,900
ND 02	Borehole Repayment Scheme	50,000	50,000	75,000	75,000	75,000
ND 03	Medium Term Agricultural Credit	40,000	50,000	60,000	70,000	80,000
ND 04	Seasonal Agricultural Credit	-	-	25,000	50,000	75,000
ND 05	Co-operative Credit	-	50,000	50,000	75,000	75,000
ND 06	Commercial and Industrial Credit	210,000	250,000	250,000	500,000	500,000
ND 07	Low Cost Housing	300,000	300,000	300,000	300,000	300,000
ND 08	Mortgage Finance Housing	250,000	300,000	300,000	300,000	300,000
PD 01	Police Department	17,300	99,000	65,000	46,000	91,300
PT 13	Police Building and Equipment					
PT 14	Posts and Telegraphs					
PT 15	Carrier Transmission Circuits	77,000	62,000	41,000	57,000	12,000
PT 16	Telephone Exchange Equipment	93,500	129,500	62,500	97,600	-
PT 17	New Telephone Lines	93,500	10,000	70,000	46,500	10,000
PT 18	Telegraph Equipment	43,000	17,000	17,000	35,000	-
PT 19	Radio Communications Equipment	19,400	9,500	2,000	-	-
	Underground Cabling	41,100	35,000	35,000	-	-
	Post Offices and Telephone Exchanges	73,200	70,000	-	-	-
PW 01	Public Works	440,700	330,000	227,500	236,100	22,000
PW 02	Lobatsi-Gaborones Road	100,000	400,000	400,000	400,000	-
PW 03	Gaborones Sewerage	100,000	100,000	50,000	-	-
PW 04	Gaborones Township Roads	25,000	75,000	50,000	50,000	50,000
PW 06	Tlokweng Drainage	10,000	-	-	-	-
PW 07	North-South Road	-	100,000	100,000	100,000	-
PW 08	Improvement of Main Roads	50,000	100,000	100,000	100,000	100,000
PW 10	Township and Village Roads	-	35,000	35,000	35,000	35,000
PW 11	Road Depots	45,000	45,000	30,000	-	-
PW 12	Airfield Improvements	52,500	100,000	100,000	10,000	10,000
PW 13	Gaborones Airfield	150,000	150,000	50,000	-	-
PW 14	Mechanical Workshops	4,500	4,000	-	-	-
PW 15	Electrification (Rural)	31,800	100,000	45,000	85,000	-
PW 16	Government Housing	888,500	500,000	300,000	250,000	200,000
PW 17	Administrative Buildings	56,000	100,000	-	150,000	-
	Meteorological Equipment	6,000	12,100	9,500	4,300	4,300

Project No.	Project Title	1968/69	1969/70	1970/71	1971/72	1972/73
PW 18	Nata-Kazungula Road	-	835,300	835,300	-	-
PW 19	Chobe-Kasane Road	250,000	43,000	-	-	-
PW 20	Gaberones Power Station	320,500	130,000	360,000	50,000	50,000
PW 21	Francistown Power Station	70,000	-	-	-	-
	<i>Surveys and Lands</i>	2,109,800	2,829,400	2,484,800	1,234,300	449,600
SG 02	Survey Equipment	-	20,000	-	-	-
SG 03	Town and General Mapping	20,700	20,700	20,700	20,700	20,700
SG 04	Township Surveys	33,000	33,000	-	-	-
	<i>Department of Veterinary Services</i>					
VE 01	Caprivi Border Fence	9,500	-	-	-	-
VE 02	Disease Control Fences	-	25,000	-	-	-
VE 03	Bull Subsidy Scheme	30,000	30,000	30,000	30,000	30,000
VE 04	Karakul Sheep Subsidy Scheme	5,000	5,000	5,000	5,000	5,000
VE 05	Dorper Sheep and Boer Goat Subsidy Scheme	5,000	5,000	5,000	5,000	5,000
VE 06	Artificial Insemination Scheme	42,300	22,200	22,200	22,200	-
VE 07	Foot and Mouth Disease Research	19,200	-	-	-	-
VE 08	Hides and Skins Improvement	39,500	9,900	9,300	9,300	9,300
VE 09	Holding Grounds, Phuduhudu	25,000	-	-	-	-
VE 10	Tapeworm Eradication Campaign	10,000	10,000	20,000	20,000	20,000
VE 11	Streptothricosis Control	13,000	-	-	-	-
VE 12	Animal Health Training	-	82,000	-	-	-
VE 13	Kuli-Nojane Stock Route	-	11,400	-	-	-
VE 14	Makalamabedi Grazing Scheme	70,000	-	-	-	-
	<i>Water Branch</i>					
WB 01	Borehole Maintenance Units	268,500	200,500	91,500	91,500	69,300
WB 03	Water Development Planning	14,000	11,000	12,400	-	-
WB 04	Gaberones Water Supply	25,000	25,000	25,000	25,000	25,000
WB 05	Lobatsi Water Supply	16,400	50,000	130,000	100,000	100,000
WB 10	Madabe Pipeline	188,000	127,000	40,000	40,000	40,000
WB 11	Minor Urban Water Supplies	35,000	-	-	-	-
WB 13	Rural Surface Water Supplies	22,500	22,500	22,500	22,500	22,500
WB 14	Borehole Equipping	12,500	12,500	-	-	-
WB 15	Water Branch Yard	10,000	10,000	10,000	-	-
WB 16	Francistown Water Supply Improvement	6,900	-	-	-	-
WB 17	Major Urban Water Supplies	20,000	50,000	20,000	20,000	20,000
		-	250,000	250,000	250,000	250,000

TABLE XIV: RECURRENT EXPENDITURE RESULTING FROM DEVELOPMENT PROJECTS

Project No.	Project Title	1968/69	1969/70	1970/71	1971/72	1972/73
<i>Agriculture Department</i>						
AD 14	Animal Husbandry Experimental Herds	-	1,500	1,500	1,500	1,500
AD 15	Mobile Animal Husbandry Teams	-	-	1,200	22,400	22,400
AD 21	Gaborone Irrigation Scheme	200	-	-	-	-
AD 23	Pasture Investigations	-	-	2,600	2,800	3,000
AD 24	Field Trials	-	4,300	8,600	8,800	8,900
AD 25	Mopane Veld Research Sub-Station	-	5,500	5,600	5,700	5,900
<i>Co-operative Department</i>						
CO 02	Co-operative Development Centre	200	11,300	19,500	41,200	41,700
		-	9,000	18,300	18,500	18,700
<i>Education Department</i>						
ED 01	Francistown Secondary School	5,800	18,300	27,200	36,300	40,000
ED 02	Swaneng Hill School	-	3,200	3,200	3,200	3,200
ED 03	Moeding Secondary School	-	10,200	13,300	15,700	16,200
ED 04	St. Joseph's Secondary School	2,000	5,100	7,400	7,400	7,400
ED 05	Kgari Sechele Secondary School	500	15,000	25,000	35,000	45,000
ED 06	Molefi Secondary School	500	15,000	25,000	35,000	45,000
ED 07	Seepapitso Secondary School	500	15,000	25,000	35,000	45,000
ED 10	School Broadcasting	-	25,200	26,400	27,600	30,000
ED 14	Educational Testing	-	6,400	6,400	6,400	6,400
ED 15	Correspondence Courses and Night Schools	-	6,800	7,500	8,300	8,300
ED 16	Tonota School	-	21,000	40,500	60,000	75,000
ED 17	Lobatsi Secondary School	-	18,700	20,700	27,300	30,000
<i>Ministry of Education, Health and Labour</i>						
LS 02	Development of Botswana Training Centre	9,300	159,900	227,600	297,200	351,500
		-	15,000	35,000	50,000	60,000
<i>Game Department</i>						
GA 01	Wildlife Conservation	13,500	26,000	26,700	27,500	28,300
GA 02	Development of National Parks	4,200	13,400	13,800	14,200	14,600
GA 03	Kalahari Wildlife Utilization Scheme	-	4,000	4,500	5,000	6,000
<i>Geological Survey</i>						
GS 01	Mineral Exploration	17,700	43,400	45,000	46,700	48,900
		10,800	23,000	36,800	74,200	86,000
<i>Ministry of Home Affairs</i>						
HA 04	Prison Welfare Officers	-	2,400	5,000	5,100	5,300
HA 06	National Library Service	-	2,000	4,500	7,000	10,000
<i>Information and Broadcasting</i>						
IN 03	Lobatsi Transmitter	-	4,400	9,500	12,100	15,300
		-	300	300	300	300

Project No.	Project Title	1968/69	1969/70	1970/71	1971/72	1972/73
Interdepartmental Projects						
ID 01	Shashi Complex	-	50,000	30,000	100,000	300,000
Medical Department						
MD 01	Gaberones Hospital	8,500	22,500	61,700	69,700	86,800
MD 02	Serowe Hospital	-	-	20,000	20,000	37,000
MD 03	Mahalapye Health Centre	1,000	21,000	33,000	33,000	48,500
MD 04	Lobatsi Hospital	800	4,500	9,500	20,600	20,000
MD 06	Francistown Hospital	2,400	15,400	27,400	32,400	54,400
MD 07	Maun Hospital	-	-	5,000	10,000	22,400
MD 08	Kasane Health Centre	-	1,000	1,000	1,000	1,000
MD 12	Health Education	-	5,000	10,000	10,000	10,000
MD 14	Pilikwe Dispensary	-	1,000	1,000	1,000	1,000
MD 15	Palapye Health Centre	-	12,400	12,400	12,700	12,900
Police Department						
PD 01	Police Buildings and Equipment	12,700	82,800	181,000	210,400	294,000
Public Works						
PW 01	Police Buildings and Equipment	-	1,000	6,000	10,000	13,000
Airfield Improvements						
PW 11	Airfield Improvements	-	9,600	10,000	10,500	11,000
PW 12	Gaberones Airfield	-	2,500	5,000	7,500	10,000
PW 13	Mechanical Workshops	-	1,500	1,800	2,000	2,300
PW 15	Government Housing	-	7,000	12,000	15,000	18,000
PW 16	Administrative Buildings	-	100	900	900	1,900
PW 17	Meteorological Equipment	-	700	800	900	1,000
PW 19	Chobe-Kasane Road	-	6,600	7,000	7,200	7,400
Department of Veterinary Services						
VE 02	Disease Control Fences	-	28,000	37,500	44,000	51,600
VE 06	Artificial Insemination Scheme	-	-	2,000	2,000	2,000
VE 07	Foot and Mouth Disease Research	-	31,200	41,900	55,200	57,000
VE 08	Hides and Skins Improvement	-	5,500	5,800	5,800	6,000
VE 11	Streptothricosis Control	-	14,800	13,400	16,000	16,500
VE 12	Animal Health Training	-	5,600	5,700	5,900	6,100
VE 13	Kuli-Nojane Stock Route	-	-	32,000	33,000	34,000
Water Branch						
WB 01	Borehole Maintenance Units	-	1,300	2,600	2,700	2,800
		-	58,400	103,200	120,600	124,400
		-	28,000	30,300	33,000	35,000

BOTSWANA

